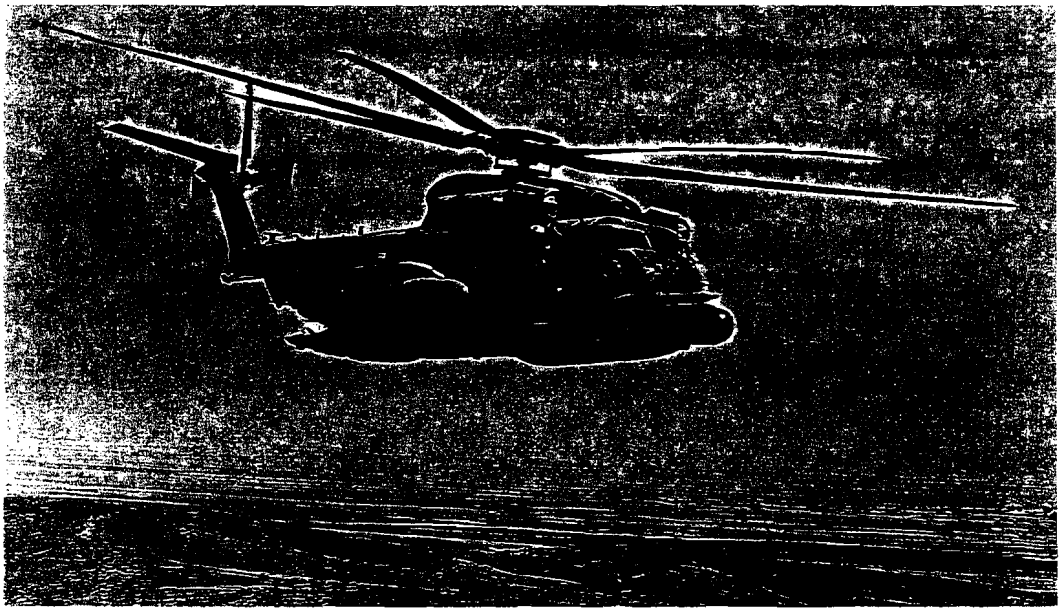
UNITED STATES AIR FORCE
AIRCRAFT ACCIDENT INVESTIGATION BOARD REPORT

MH-53M, AIRCRAFT NUMBER 70-1625
20TH SPECIAL OPERATIONS SQUADRON
16TH SPECIAL OPERATIONS WING
HURLBURT FIELD, FLORIDA



LOCATION: N34° 56.25, E069° 26.79
NEAR BAGRAM AB, AFGHANISTAN
DATE OF ACCIDENT: 23 NOVEMBER 2003

BOARD PRESIDENT: BRIGADIER GENERAL STEVEN C. SPEER

Conducted IAW Air Force Instruction 51-503

SUMMARY OF FACTS AND STATEMENT OF OPINION
MH-53M ACCIDENT
23 NOVEMBER 2003

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COMMONLY USED ACRONYMS & ABBREVIATIONS

AF	Air Force
AFB	Air Force Base
AFI	Air Force Instruction
AFSOC	Air Force Special Operations Command
AFSOC/DO	AFSOC Director of Operations
AGL	Above Ground Level
AOR	Area of Responsibility
BPO	Basic Post-Flight Operation
C2	Command and Control
CASEVAC	Casualty Evacuation
Chalk	Element in aircraft formation
CRM	Crew Resource Management
CSAR	Combat Search and Rescue
CSH	Combat Support Hospital
DIRCM	Directional Infrared Countermeasure
ENS	Enhanced Navigation System
FARP	Forward Area Refueling Point
FCF	Functional Check Flight
FLIR	Forward Looking Infrared
HLZ	Helicopter Landing Zone
IDAS/MATT	Interactive Defensive Avionics System / Multi-Mission Advanced Tactical Terminal
IEWP	Integrated Electronic Warfare Processor
IGB	Intermediate Gear Box
JOC	Joint Operations Center
JSOTF	Joint Special Operations Task Force
L	Local Time
LZ	Landing Zone
MA	Mishap Aircraft
MC	Mishap Crew
MEDEVAC	Medical Evacuation
MP	Mishap Pilot
MCP	Mishap Copilot
MFE	Mishap Flight Engineer
MRS	Mishap Right Scanner
MLS	Mishap Left Scanner
MTS	Mishap Tail Scanner
MSL	Mean Sea Level
Nf	Engine Power Turbine Speed
Ng	Engine Gas Producer Turbine Speed
Nr	Rotor RPM
NVG	Night Vision Goggles
OPCON	Operational Control
OTI	One Time Inspection
Pink Time	Time between sunset and last light
Pavelow	MH-53M Aircraft
RTB	Return to Base
S/N	Serial Number
SOF	Special Operations Forces
SOP	Standard Operating Procedure
TACON	Tactical Control
T5	Turbine Outlet Temperature
TCTO	Time Compliance Technical Order
TO	Technical Order
TOLD	Takeoff and Landing Data
USAF	United States Air Force
Z	Zulu or Greenwich Mean Time(GMT)

The above list was compiled from the Summary of Facts, the Statement of Opinion, the Index of Tabs, and witness testimony (Tab V).

SUMMARY OF FACTS

1. AUTHORITY, PURPOSE, AND CIRCUMSTANCES

a. Authority.

On 25 Nov 03, Lieutenant General Paul V. Hester, Commander, Air Force Special Operations Command (AFSOC), appointed Brigadier Steven C. Speer to conduct an accident investigation of the 23 Nov 03 crash of an MH-53M aircraft, serial number 70-1625, near Bagram AB, Afghanistan (Tab Y, 1). The investigation began at Bagram AB, Afghanistan, on 27 Nov 03 and continued at Hurlburt Field, Florida, on 26 Jan 04 after the Safety Board investigation was completed. Their investigation was completed on 26 Jan 04. Technical advisors were Major David P. Charitat, Legal Advisor; Major Percy E. Dunagin, Pilot Member; Captain Michael J. Colvard, Maintenance Member; Captain Scott M. Cummis, Flight Surgeon; and Senior Airman Leanna Grard, Recorder.

b. Purpose.

This aircraft accident investigation was convened under Air Force Instruction (AFI) 51-503. The primary purpose is to gather and preserve evidence for claims, litigation, and disciplinary and administrative actions. In addition to setting forth factual information concerning the accident, the Board President is also required to state his opinion as to the cause of the accident or the existence of factors, if any, that substantially contributed to the accident. This investigation is separate and apart from the safety investigation, which is conducted pursuant to AFI 91-204 for the purpose of mishap prevention. The report is available for public dissemination under the Freedom of Information Act (5 United States Code (U.S.C.) §552 and DOD 5500.7, AF Supplement).

c. Circumstances.

The accident board was convened to investigate the Class A accident involving an MH-53M aircraft, S/N 70-1625, assigned to the 20th Special Operations Squadron, 16th Special Operations Wing, Hurlburt Field, Florida, which crashed on 23 Nov 2003.

2. ACCIDENT SUMMARY

Aircraft 70-1625 experienced a compressor stall in the number two engine during an Infiltration/Exfiltration mission on 23 Nov 2003 and impacted the ground approximately nine miles from Bagram AB, Afghanistan. The Pilot, Major Steven Plumhoff; a passenger, Army Sergeant Major Phillip Albert; the Right Scanner Technical Sergeant William J. Kerwood; the Left Scanner, Technical Sergeant Howard A. Walters, and the Flight Engineer, Staff Sergeant Thomas A. Walkup were killed in the mishap. The Co-pilot, First Lieutenant Christopher C. Richardson; the Tail Scanner, Senior Master Sergeant Wayne C. Lopez; and passengers Second Lieutenant William H. Waggy, Staff Sergeant Jonathan Purser, Specialist Diane C. Gilliam,

Specialist Gary L. Craig, Specialist Juan C. Aguilera, and Specialist Demetrius D. Kincaid successfully egressed the aircraft post-crash and survived with injuries varying from severe to minor. The aircraft was destroyed upon impact with the loss valued at $26,000,000.00. There was some damage to a local field, which was mitigated within a week of the crash, and no civilian casualties or injuries occurred.

3. BACKGROUND

The 16th Special Operations Wing, stationed at Hurlburt Field, Florida, maintains, among other aircraft, the MH-53M Pavelow for use in support of Special Operations worldwide. The wing and its subordinate units are all components of Air Force Special Operations Command. The 20th Special Operations Squadron (SOS) is a subordinate organization of the 16th Special Operations Wing. The mishap unit was a 4-ship detachment of the 20th SOS deployed to Bagram AB, Afghanistan supporting a joint task force (JTF) conducting combat operations in that theater.

Aircrews and aircraft converged in Kandahar, Afghanistan in early Nov 2003 in support of operations tasked and operationally controlled by the theater Combined Joint Special Operations Air Component Commander (CJSOAC). Three MH-53M's were transferred by strategic airlift from another theater location and one helicopter (MA) was brought directly to Kandahar from Hurlburt Field. Aircraft were built up, test flown and forward deployed to Bagram AB, Afghanistan. Aircrews were paired based upon previous Afghanistan experience and overall crew qualification. Maintenance crews were formed into shifts and assignments given. All MH-53M aircraft were in place on 13 Nov 2003.

The CJSOAC Commander, the JTF Air Component Commander, and the deployed Mission Commander of Pavelow operations discussed tasking and types of missions in depth during pre-planning efforts and again upon arrival in theater. Operational requirements, aircraft performance, enemy operations, and environmental factors (terrain, weather, temperature) led to decisions that factored in all the above to arrive at mission sets/taskings that would be given to the MH-53 aircrews (Tab V 19.1-19.2). These tasks continually placed the aircrew and helicopter in the upper end of the medium risk category. Only the CJSOAC Commander had approval authority for high-risk missions (Tab V, 21.1-21.2). Additionally, he had the waiver authority from the AFSOC/DO to authorize aircraft gross weight operations above 46,000 pounds up to 50,000 pounds. This waiver is common during wartime operations because it allows maximum flexibility to support combat operation loads. In practice, the Mission Commander, had limited gross weights to 48,000 pounds as a rule of thumb, but his primary consideration was aircraft power performance, not weight (Tab V, 21.5). The mountainous region of the Afghanistan AOR requires terminal area operations at 6-10,000 ft MSL and enroute operations at 10-15,000 ft MSL. Often, the MH-53 at mission gross weights does not have hover or single-engine power capability at these altitudes without both engines operating and/or reducing weight through the auxiliary fuel tank jettison system, which puts the helicopter back in the single engine envelope, enabling it to recover safely when conditions warrant. Therefore TACON decisions by the JTF Air Component Commander had the aircraft performing only

missions that were within the training, scope and performance limitations of the aircraft. Specifically, terminal area operations were limited to conditions where 50-foot hover power was available. Enroute operations were limited by maximum power output from both engines, and dependent upon the ability to rapidly reduce weight in an emergency (Tab V, 21.2-3).

4. SEQUENCE OF EVENTS

a. Mission.

The mission was tasked as a two-ship movement of special operations forces and supplies between Bagram, Afghanistan, and remote sites in the mountains of Afghanistan. The Commander, Combined Joint Special Operations Air Component, authorized the mission.

b. Planning.

The two crews tasked to fly this mission were on their third day of a 3-day rotation of support missions. The planning cycle was set up so that an additional crew was tasked to coordinate and plan daily missions while the flying crews were executing the current missions. Initial mission planning was conducted by the duty/planning crew, but the flight lead crew for this day had finalized the detailed planning for this mission the morning of the flight (Tab V, 6.15, 8.1). The mishap crew was the Chalk two element of all missions in this rotation. The Detachment Commander and Squadron Director of Operations, Lt Col Slife, was fully aware of the daily operations and talked regularly to the flight lead pilots about the specifics of each mission (Tab V, 21.3). He did not always attend the mission briefings but was fully aware of each mission's profile.

On the day of the mishap, both crews woke in the morning at approximately 0800 L and began final preparations for the mission. Capt Mark Newell, the Aircraft Commander of the flight lead element, Beatle 11, conducted the mission briefing using the standard briefing guide. Because this was the third day of similar re-supply missions, this briefing was familiar to all the crewmembers. All of the crewmembers interviewed fully understood the mission. The mission was to be a daylight mission, with a possible brief extension into nighttime, depending on the actual flow of the re-supply. This variable was mitigated by varying the routes to shave off time in order to maximize daylight operations. The available routes to do this had been discussed and weighed by all the crews on an ongoing basis (Tab V, 8.1- 8.3). There had been some fluidity to the missions in the past two days, in that the supported team members had changed their loads from the pre-briefed loads (cargo and passenger requirements) at the last minute. Therefore, the mission crews were aware of this trend and fully expected there to be last minute changes. They had dealt with these changes with little problem and had adjusted on the fly while still maintaining the limitations on fuel, gross weight, and aircraft power margins (Tab V, 7.7, 17.1).

c. Preflight.

Preflight was uneventful. Auxiliary tank safety pins were removed during preflight (Tab V, 12.21-22; Tab DD, 35).

d. Flight.

The mishap flight, Beatle 11 and 12, initially departed Bagram Air Base at 0653Z (1123L) for its first leg of the mission, according to the JOC logs. The routes the flight took were through mountainous terrain rising from the Bagram valley altitude of 4,900 feet MSL to 12,500 feet MSL ridgelines. They made two out-and-back trips between the base and tactical landing zones, each lasting approximately three hours. These legs of the mishap sortie were flown both in the valleys and across ridgelines, at altitudes varying from 200 feet AGL to 3000 feet AGL to climb over the ridgelines (Tab V, 7.1, 8.2-8.3, 8.6-8.7).

The mishap flight departed Bagram Air Base for its final leg of the day at approximately 1221Z (1651L) from the approach end of runway 03 and began a climbing turn out to the east (Tab AA, 9). Takeoff weight for each aircraft was approximately 48,000 pounds with 7,500 pounds of fuel (Tab V, 5.2, 6.3, 7.7, 7.8, 8.5). The flight signed off with Bagram tower at approximately 1223Z (1653L) and continued eastbound. Flight lead (Beatle 11) intended to climb up to 7000 feet MSL initially, then continue to climb across a 9500 feet MSL ridgeline approximately 17 miles east of Bagram once they got closer to the ridgeline (Tab V, 8.6, 16.1). According to witness testimony, the MA took off several seconds delayed from its flight lead aircraft due to a slight delay coming out of the FARP at Bagram (Tab V, 16.1, 8.6). The MA climbed and accelerated to catch up with the lead aircraft. During this time the flight lead aircraft had slowed its speed to allow Beatle 12 to catch up. After Beatle 12 caught up to a position of eight to ten rotor disks back and staggered slightly left, as reported by the Tail Scanner on Beatle 11, Beatle 11 resumed a normal acceleration (Tab V, 16.2). This was reported as approximately five minutes after takeoff (Tab V, 8.6). Tracking data showed the MA departing the FARP at Bagram and turning out to the east, while climbing and accelerating (Tab AA, 9).

At this time, with Beatle 12 in a loose staggered left formation with approximately ¼ mile separation, the Tail Scanner on Beatle 11 reported over intercom that Beatle 12 appeared to be dispensing flares. Almost immediately, he added that Beatle 12 was turning left and descending, and continuing to dispense flares (Tab V, 16.1, 16.2). Beatle 11 queried Beatle 12 on the interplane radio about their maneuver, but, at first, got no response. Beatle 11 then turned left to follow Beatle 12 (Tab V, 6.7).

Several personnel onboard the MA heard popping noises, accompanied by flames, sparks and what appeared to be sparkling flares. One distinctly heard a pop from the number two engine. Another saw flames out the right side passenger windows. A third saw sparks on the right hand side only. The MTS reported hearing several popping noises that he interpreted as flares being dispensed (Tab V, 1.1, 3.1, 4.2, 5.2, 9.8, 23.2, 10.1). At the time, he was adjusting something in the right rear of the cabin, and immediately turned to look out the rear (Tab V, 4.2, 5.8). He saw what appeared to be flares coming out the right side of the aircraft, but did not observe anything out the left. He did not hear the normal beeping tones that the Chaff and Flare Dispenser makes when flares are dispensed, nor did he hear any tones from the DIRCM. At that moment, the MTS and one passenger also felt a small shudder in the aircraft (Tab V, 4.2). Shortly thereafter, he heard the cockpit crew analyzing the situation and taking steps to remedy it. These included announcing that there was a compressor stall in the number two engine (Tab V, 5.2, 5.3); calling for the gear down; and verbalizing and attempting to jettison the aux fuel tanks. Of the 12

SINGLE ENGINE PERFORMANCE DATA

	1	2	3	4
Pressure Altitude (feet MSL)	**4,600**	**6,600**	**4,600**	**4,600**
Temperature (degrees C)	+9	+5	+9	+9
Gross Weight (pounds)	**48,000**	**47,600**	**46,000**	**42,700**
Density Altitude (feet MSL)	5,000	7,000	5,000	5,000
Maximum Power Available (percent torque)	114	107	114	114
Dual Engine Service Ceiling (feet MSL)	12,000	12,200	13,000	13,000
Single Engine Weight (pounds)	42,700	39,700	42,700	42,700
Sink rate with aux tanks (FPM)	-380	-550	-240	N/A
Sink rate without aux tanks (FPM)	-50	-200	+90	0
Single engine capable without aux tanks?	No	No	Yes	Yes

The MTS, realizing that they were going to make a precautionary landing, began to reduce weight by throwing his .50 caliber ammunition cans overboard. He considered throwing out the .50 caliber gun itself also, but was interrupted by the landing sequence (Tab V, 5.4).

During the descent after the initial compressor stall, Beatle 11 observed the MA dumping fuel (Tab V, 7.3, 6.8). No witnesses remember seeing the fuel dump stop prior to impact (Tab V, 6.8, 7.14-16). However, the post crash analysis of the dump switches indicated that they were in the off position at impact (Tab DD, 9). Beatle 11 also descended and accelerated (approximately 1,500 feet per minute and 120 knots) to catch up with Beatle 12. From Beatle 11's perspective, Beatle 12 was at the 12:30 position about 1 mile away (Tab V, 8.7, 6.8). Simulator recreation and analysis of the tracking data estimated that the MA descent rate averaged approximately 3,000 FPM, which included a droop in the rotor RPM.

One crewmember on Beatle 11 reported what appeared to be an orange flame from the right side of the MA, near the number two engine exhaust, just prior to impact. His perspective of the MA was to his 11:30, 1000 feet below and about 1 mile ahead (Tab V, 7.3-4). This corresponds with the timeframe when the number one engine made a popping sound. While it is uncertain whether this orange flame came from the number one or number two engine, it is possible that either the number one engine compressor stalled or the number two engine produced more flames due to its deteriorating condition. Nobody else, including the people on board the MA, reported any pre-impact fire.

e. Impact.

Aircraft 70-1625, Beatle 12, impacted the terrain at approximately 1657L (1227Z) on 23 Nov 2003 at N 34 56.25 E 069 26.79 at approximately 4,500 feet MSL. Beatle 11 observed Beatle 12 impact the ground approximately 1.5 minutes after the initial turn, and reported it to the Joint Operations Center at Bagram at 1233Z (1703L) (Tab V, 7.3, 6.8). Photographs show initial impact scars near a riverbank extending towards a farmer's field at a heading of 310 degrees (Tab Z). The entire crash site is a relatively flat area, approximately 630 feet long and 270 feet

wide. Debris from the mishap aircraft is scattered as far as 360 feet from the main wreckage (Tab S, 3). There are no major obstacles such as trees, buildings or wires within 500 feet of the wreckage. The initial impact scars are on a flat surface covered with 6-inch diameter flat rocks, which appears to be the riverbed during the season in which the river would be wider and deeper (Tab Z). These scars lead up to the farmer's field, which borders this rocky riverbed with a sloping berm of dirt, approximately 3 feet high and 6 feet wide. This berm wraps around the river bend near the crash site, forming a barrier and a riverbank separating the river from the farmer's field. The field itself is made up of fertile soil with terraced sections separated by smaller berms (Tab Z).

Beatle 12 executed a normal, nose up, running landing into the crash site (Tab V, 5.3, 7.12), as the Flight Manual calls for (Tab BB, 21). Simulator recreations estimated that a touchdown speed of approximately 50 knots and descent rate of 500 feet per minute resulted from the flight path of the mishap aircraft from the initial point of engine failure to impact. At approximately 100-200 feet above the ground, and 0.1 nautical miles (600 feet) from the impact site, the mishap pilot flared the aircraft, which brought the nose up and tail down (Tab V, 1.1, 5.3-5.4, 9.10, 22.4-22.5). At this time, the MTS realized the landing was going to be rough, and dove forward off of the tail cargo ramp (Tab V, 5.4). In order to maintain controlled flight with one engine operating, the MP demanded a high power setting from the number one engine. As he increased power from an already high power setting to arrest the descent for landing, the number one engine strained even more and overheated (Tab V, 9.7, 9.14, Tab DD, 3-4). The number one engine made a loud pop (Tab V, 9.20). The MP continued to adjust the MA flare attitude and speed just prior to touchdown (Tab V, 9.7). When the MA touched down, scars indicated that the tail skid and the main landing gear touched down and began scraping on the flat rocky area approximately 180 feet prior to the berm (Tab S, 3). Witness testimony confirmed that the MA continued to slide on its belly until a significant bump that jarred the MA completely out of control (Tab V, 9.11, 10.7, 22.5). This bump was the berm, which acted as a ramp and caused the MA to pitch up slightly and become slightly airborne. As the nose pitched up, the tail section pitched down, causing the tail section to contact the ground at the intermediate gear box (IGB). The wreckage of the tail section shows significant damage to the IGB area but little damage to the tail rotors from rotating tail rotor blades digging into the ground (Tab Z). The tail skid assembly, mounted at the IGB, was also found on the berm near this impact point.

The force of the MA tail section impacting the berm caused it to separate just forward of the tail pylon hinge. Because the tail rotor blades were winding down after separation but still spinning, the thrust of them and the forward momentum of the aircraft carried the tail section forward and to the right of the berm approximately 50 feet (wreckage diagram). The effect of the tail section separation induced a right yawing motion in the MA due to the loss of tail rotor anti-torque. The nose then pitched down due to the shift in the center of gravity. The MA continued translating forward during this yaw, but did not make any scars on the ground between the berm and 60 feet down towards the main wreckage (Tab S, 3). The mishap flight engineer most likely shut off the number one engine throttle in response to this right yaw, as called for in the boldface emergency for tail rotor drive system failure in the Flight Manual (Tab BB, 19-20). Engine analysis indicated that the number one throttle was in the shutoff position, the number two throttle in the ground idle position (Tab DD, 37) and the number one engine's inlet guide vanes were in the shutoff position (Tab DD, 3). The Flight Manual calls for the engine to be pulled to ground idle

in the event of a compressor stall (Tab BB, 18). The T5 temperature from engine gauges analyzed indicated one engine at 700 degrees C and the other at 100 degrees C. This is consistent with the number one engine cooling off slightly (from over-temperature at 900 degrees C) between being shut off and losing electrical power as the generators went off line due to decayed rotor RPM; and with the number two engine cooling off after being placed in ground idle after the initial compressor stall and wind milling in cool air all the way down to the crash site.

As the MA lost its final lift, it impacted the ground on its left side while sliding left, ripping the left hand aux tank off, and causing it to roll over to the left once and come to rest on its top side, facing approximately 150 degrees right of its initial inbound course (Tab S, 3; Tab Z). A post-crash fire consumed the aircraft rapidly due to ruptured fuel lines and fuel tanks (Tab V, 2.1, 5.4, 6.8, 17.2).

f. Life Support Equipment, Egress and Survival.

Upon boarding the MA the passengers received no safety or egress brief (as required IAW AFI 11-2 MH53 Vol. 3) and were provided with no means of securing themselves within the aircraft (Tab V, 4.1, 9.2). Upon impact the MA rolled to an inverted position and the body of the MA was divided by the post-crash fire into fore and aft sections (Tab S, 3). In the forward section the MCP, with a head injury, extricated himself from the cockpit and then reached into the rear section of the burning aircraft and found Specialist Aguilera attempting to locate an egress route. The MCP pulled Specialist Aguilera to safety (Tab V, 2.1). In the aft section of the MA, Specialist Craig, on his way out, attempted to extricate Sergeant Major Albert, who was pinned and unconscious. Unable to do that, he moved further back and saw Staff Sergeant Purser suspended from his personal safety line from the inverted floor and on fire. He paused, cut him free, and assisted him out of the MA into the nearby river, saving his life (Tab V, 9.12). The MTS and passengers Lieutenant Waggy, Specialist Gilliam, and Specialist Kincaid successfully egressed the aft portion of the MA after the crash and survived with injuries of varying levels.

Post-crash analysis indicates that position of the passengers within the aircraft, rather than the restraint method, was the significant factor in their post-crash condition and egress capability. The diagram included in Tab AA, which differs from the SIB Tab R, clearly shows that those passengers seated on the left of the MA sustained minimal injuries, while those on the right were either killed or severely injured (Tab AA, 1).

No deficiencies were noted in the life support and survival equipment. Inspection records of this equipment were reviewed and found to be appropriate and without discrepancy. Lack of a quick release on the HGU 56/P helmet may have delayed the egress of the MTS. The MTS's communication cord became tangled during the post crash sequence. One technique for untangling himself would have been removing his helmet, however, the chinstrap on this helmet requires two hands to unfasten. The MTS had sustained a shoulder separation, which rendered his left hand useless. He eventually pulled the cord loose and egressed (Tab V, 5.4).

g. Search and Rescue.

Upon impact of the MA, Beatle 11 immediately assumed the CSAR role, landing approximately three to five minutes after the mishap (Tab V, 6.10). The crewmembers and passengers of Beatle 11 were unable to enter the MA to rescue any of the trapped members due to the post crash fire and exploding ordinance. Passengers on Beatle 11 rapidly established site security and gathered casualties. Crewmembers on Beatle 11 helped the injured passengers and crew.load onto their aircraft and then departed to Bagram AB about 20-25 minutes after the mishap, leaving a security detachment to secure the crash site (Tab V, 7.15, 16.3-4, 17.2). On approach to Bagram, Beatle 11 declared an emergency CASEVAC with the Bagram air traffic control tower, and stated their intentions to land at the Alpha taxiway, where they had coordinated with the JOC to meet SOF medical personnel. The tower controller misunderstood the term CASEVAC, and thus the needs of Beatle 11. The tower controller believed that Beatle 11 had an in-flight emergency and initiated a crash rescue response, but did not alert any ambulance or medical units (Tab V, 8.15; Tab AA, 11-12). No ambulances departed to meet Beatle 11 until four minutes and ten seconds after the aircraft landed on Alpha taxiway (Tab AA, 11-12). The reasons for this delay are three-fold: 1) Miscommunication with the tower controller, 2) Lack of a written mishap response plan in the Pavelow Operations Center (Tab V, 21.7), which meant that Pavelow crews did not have the MEDEVAC plans and frequencies to communicate with the Combat Support Hospital (CSH) (Tab V, 8.18), and 3). Lack of coordination between the JOC and the airfield MEDEVAC response system after the initial call from Beatle 11 (Tab V, 6.7). The CSH operated an independent MEDEVAC operations center and the standard procedure was for aircraft to land at the CSH, a location separate from Alpha taxiway. CSAR and MEDEVAC were not part of the mission profiles of the deployed Pavelow unit, although they routinely provide self-CSAR or can be called upon as CSAR aircraft of opportunity (Tab V, 21.4-21.6).

Additional aircraft on alert for CSAR were available but were not launched, since recovery of casualties was complete. Instead, Beatle 11 returned to the site with a team to continue site security and prepare for remains recovery (Tab V, 6.11-12, 8.17).

In summary, the initial medical response to Beatle 11 was delayed, but this did not contribute to the degradation in the medical condition of any of the casualties (Tab X, 1).

h. Recovery of Remains.

The 54th Quartermaster Company, a U.S. Army Mortuary Affairs detachment from Ft. Lee Virginia deployed to Bagram Air Base, conducted remains recovery. A team of 8 mortuary affairs members searched and recovered all possible remains over a four-day period using standard recovery techniques. The remains departed Bagram Air Base on 30 Nov 2003 aboard a C-17 aircraft to the Dover AFB Port Mortuary, where positive identification of remains and autopsies (if possible) were conducted. The remains were then released to the families for burial at Arlington National Cemetery.

5. MAINTENANCE

a. Forms D[illegible]ientation.

The mishap occurred on an MH-53M aircraft, tail # 70-1625. The active 781 aircraft forms were destroyed in the post-crash fire (Tab D, 4). Upon review of 1625's historical maintenance documentation, no discrepancies were discovered relevant to the mishap. There were no open Time Compliance Technical Orders (TCTOs). Historical aircraft records did not reveal any significant recurring maintenance problems (Tab D, 4).

b. Inspections.

All inspections were current for the MA. The last scheduled major inspection was a phase inspection that was successfully accomplished on 13 Aug 03 (Tab D, 3). The only open minor inspection documented in the maintenance forms was a hot section engine wash (Tab D, 4). The hot section wash is required to be accomplished every 50 hours in a sandy environment. The inspection was placed in the forms with 7.2 hours remaining until the actual inspection was officially due, thus not exceeding the 50-hour requirement in accordance with technical data (Tab BB, 24-28). This inspection was deemed to be unrelated to the mishap.

c. Maintenance Procedures.

All maintenance procedures, practices and discipline were deemed to be adequate. There was no unscheduled engine-related maintenance conducted on 1625 prior to the mishap. The auxiliary fuel tank jettison system was checked for electrical continuity on 11 Nov 03 upon aircraft buildup after air shipment (Tab U, 1). Prior to this check, the jettison system was checked for electrical continuity IAW TO 1H-53(M)J-2-2CL-2 on three separate occasions at Hurlburt Field (once upon transfer from 21 SOS, once after completion of the Phase Inspection, once following the DIRCM modification and one additional time for the left hand tank after maintenance was performed on the ALR-69). No discrepancies were noted on any of the above-mentioned checks. During the preflight checks prior the final flight of the mishap aircraft, there were no discrepancies noted by the maintenance or flight crew personnel (Tab V, 12.10). The MA landed with no discrepancy write-ups on the last sortie prior to the day of the mishap (Tab U, 2).

Maintenance Personnel and Supervision.

There was adequate supervision for maintenance personnel at the deployed location. Maintenance personnel had the appropriate tools, technical data, and equipment to perform their assigned tasks. All maintenance personnel had adequate training and experience.

d. Fuel, Hydraulic and Oil Inspection Analysis.

Engine oil samples were taken on 20 Nov 03 at Bagram by deployed military maintenance personnel. Results from the oil analysis were normal and within tolerances according to technical guidance. No other significant servicing information was deemed relevant to the mishap (Tab D, 6).

e. **Unscheduled Maintenance.**

No unscheduled maintenance was performed at the deployed location. Since the completion of the last scheduled 300-hour Phase Inspection on 13 Aug 03, the aircraft flew 77.5 hours locally at Hurlburt Field and there were four Time Compliance Technical Order (TCTO) modifications installed on the aircraft (Tab D, 3). On 21 Sep 03, the Directional Infrared Countermeasure (DIRCM) modification was installed on the aircraft (Tab U, 24). On 6 Oct 03, the Vibration Monitoring System, Mission Commander's Console, and Towel Bar modifications were installed on 1625. None of these TCTOs were determined relevant to the mishap. Other major maintenance activities performed on 1625 since the time of the last scheduled Phase inspection are as follows: On 15 Sep 03 at Hurlburt Field, the number one engine feed back cable was adjusted by military maintenance personnel, due to a low power condition; the aircraft passed the subsequent functional check flight (Tab U, 21-23). On 24 Sep 03 at Hurlburt Field, military maintenance personnel replaced the aircraft battery (Tab U, 25-26). On 25 Sep 03 at Hurlburt Field, the number two engine feed back cable was adjusted by military maintenance personnel, due to a Ng limited write up; the aircraft passed the subsequent functional check flight (Tab U, 28). On 25 Oct 03 at Hurlburt Field, military maintenance personnel removed and replaced the battery for its 60-day capacity check (Tab U, 27). On 30 Oct 03 at Hurlburt Field, the aircraft was torn down for air shipment to the deployed location. On 13 Nov 03 at Kandahar, the aircraft was built back up and passed it's functional check flight (Tab U, 2-19). From 13 Nov 03 through 22 Nov 03 the MA flew 10 sorties accumulating 42.8 hours (Tab U, 2-19). None of the above-mentioned unscheduled maintenance performed was directly related to the mishap.

6. AIRCRAFT AND AIRFRAME, MISSILE, OR SPACE VEHICLE SYSTEMS

a. **Condition of Systems.**

The mishap aircraft (MA) was destroyed upon impact with the ground, causing severe damage to all structures and systems. Due to the extent of the post-crash fire, evaluation of the structures and systems was very limited. A review of the aircraft history revealed no evidence of pre-existing problems.

The MA propulsion system was evaluated by engineers from Warner-Robins Air Logistics Center at the Naval Aviation Depot in Cherry Point, NC. They determined that the number two engine experienced a compressor stall caused by a major compressor rub. Compressor rubs can occur when compressor blades expand and contact the engine casing. Expansion of compressor blades can be caused by excessive heat induced by high engine speeds, high altitudes, high aircraft gross weight and anti-ice heat. They also determined that the number two engine experienced blade failure as a result of the compressor rub which led to brief outbursts of flames and sparks. The inlet guide vanes were determined to be in the closed position at the time of impact. Closed inlet guide vanes are indications that the engine was not running or at ground idle at the time of its impact. Impact here is defined as when the MA rolled over and the engines struck the ground. The number one engine was determined to have failed due to overtemping of the gas generator turbine. The failure of the number one engine can be attributed to the gross

weight of the aircraft, pressure altitude and the failure of the number two engine. Single engine capability does not exist at the weight and environmental conditions of the mishap. Any additional torque demand to reduce the sink rate of the MA before landing would have led to the engine exceeding max operating temperatures. Overtemping the turbine resulted in burning portions of the first stage gas generator turbine blades. The engine could not sustain power with the loss of the turbine blades. The inlet guide vanes for the number one engine were determined to be in the closed position at the time of its impact. There was no other evidence of internal failure of the number one engine (Tab DD, 1-4).

The MA emergency control panel was sent to the Air Force Research Laboratory's Materials Integrity Branch at Wright Patterson Air Force Base, OH. The emergency control panel contains auxiliary tank jettison switches, fuel dump switches, the hoist shear switch and the weapons armed switch. The summary of their report indicates that the left auxiliary tank jettison switch was most likely in the "on" position at impact and the switch guard was determined to be in the "up" position. The right hand auxiliary tank jettison switch exhibited no witness marks to suggest its position at impact, but the switch guard was determined to be in the "up" position. The hoist shear switch guard exhibited a one-time overload event suggesting that it was in the "up" position at impact. However, the hoist shear switch's position was not discernable at the time of impact. Both fuel dump switches were in the "off" position at impact. There was no evidence of electrical arcing on any of the switch terminals and wires analyzed (Tab DD, 5-33).

The MA auxiliary fuel tank jettison system components, engine throttle quadrant and engine air particle separators (EAPS) were sent to the Naval Aviation Depot at Cherry Point, NC. Engineers from Warner Robins Air Logistics Center analyzed the hardware. All of the auxiliary tank jettison system hardware analyzed displayed no signs of failure or inability to operate properly. In addition, there was no evidence that either auxiliary tank was jettisoned prior to impact. The engine throttle quadrant positions were determined to be in the "off" position for the number one engine and at "ground idle" for the number two engine. The throttle quadrant findings agree with the engine analysis conclusion that both engines were either not running or at ground idle at engine impact. The EAPS showed no signs of foreign object damage (FOD) that could have contributed to number two's failure. Both EAPS doors were closed at impact (Tab DD, 35-37).

The left and right side auxiliary tank jettison cam and piston assemblies along with the right hand fairing assembly were sent to Ogden Air Logistics Center, UT. The ejection gun chamber that houses the explosive cartridges was not recovered from the wreckage. It was determined that the cartridges did not ignite prior to impact. Engineers concluded the cartridges ignited during the post-crash fire. Lead (from the cartridges) was found on portions of the piston assembly, which resulted from the cartridges exploding from the post-crash fire. Due to the excessive heat of the post-crash fire, the explosion of the cartridges ruptured the heat-weakened ejection gun chambers and disengaged the pistons from the locked position (as seen from the contrast in heat damage on the piston shafts). The contrast in heat damage on the pistons indicates that the pistons were in the locked position at the beginning of the post-crash fire. In summary, this analysis concludes that the auxiliary tank jettison cartridges did not fire until the post-crash fire, which engaged the mechanical linkage once the tanks were on the ground (Tab DD, 39-61).

b. Testing.

Below are the components that were analyzed following the mishap and the organizations that conducted the analyses:

Engines	Naval Aviation Depot at Cherry Point, NC
Engine Air Particle Separators (EAPS)	Naval Aviation Depot at Cherry Point, NC
Auxiliary Fuel Tank Pylons	Naval Aviation Depot at Cherry Point, NC
Throttle Quadrant	Naval Aviation Depot at Cherry Point, NC
Cam and Piston Assemblies	Ogden Air Logistics Center, UT
Jettison Hooks	Ogden Air Logistics Center, UT
Auxiliary Tank Ground Safety Pins	Ogden Air Logistics Center, UT
Explosive Cartridges	Ogden Air Logistics Center, UT
Emergency Control Panel	Air Force Research Lab, WPAFB OH

Detailed results of these analyses can be found at Tab DD. The explosive cartridges from the MA were not recovered. However, similar cartridge lot numbers were tested by engineers at Ogden Aircraft Logistics Center. The results of this cartridge analysis showed that 100 percent of the cartridges tested fired as designed. Further testing showed that once the amperage went below 2.1 amps, some of the cartridges did not fire. The cartridges are designed to fire at 4.25 amps (Tab DD, 63-117).

On 13 Feb 04, a test was accomplished on a MH-53M at Hurlburt Field to verify that the proper electrical load was getting to the auxiliary fuel tank jettison cartridges. Test equipment was developed and set up to capture the voltage and current levels at the cartridge firing assemblies while the aircraft was operating off of battery power, external AC power and aircraft power with rotor blades turning. Under all three scenarios the appropriate amount of voltage and current was measured at the cartridge firing assemblies. The results from this test help eliminate any voltage or current interference from other operational systems on the aircraft running during normal operations. However, excessive resistance in the ground path, loose connections or corrosion in excess of approximately 6 to 8 ohms could prevent the minimum amount of current (2.2 amps) required to fire the cartridges from getting to the firing chambers (Tab DD, 119-137).

7. WEATHER

a. Forecast Weather.

The weather forecast for Bagram AB for the time period 0800Z to 1400Z was northerly winds at 8 knots, unrestricted visibility and mostly cloudy skies with cloud bases at 12,000 feet. Temperature and PA were forecast to be +4640 feet and +11 degrees C at the time of the last departure from Bagram. Sunrise occurred at 0204Z (0634L), sunset at 1213Z (1643L), and end of civil twilight at 1240Z (1720L). Moonrise occurred at 0105Z (0535L) and moonset at 1143Z (1613L), with 1 percent of moon illumination (Tab F, 3-4). Forecast weather was not a factor.

b. Observed Weather.

Actual weather observation at 1155Z (1625L) was mostly cloudy with clouds at 10,000 feet AGL, winds at 010 degrees at 7 knots, unrestricted visibility, and altimeter setting 30.26 inches (Tab F, 3). Observed weather was not reported to be significant by any witnesses. The mishap occurred after sunset and before ending civil twilight. Because of this, the effective illumination reported by various witnesses was different. The most common term used by witnesses on the MA and the mishap flight lead aircraft to describe this illumination was "pink time", a term used to describe the twilight condition after sunset but before night vision goggles are usable (Tab V, 6.23, 8.9). This illumination does affect terrain with limited contrast, as the terrain in the area was. This is further discussed in Section 10, Human Factors.

Post accident weather was not a factor.

c. Space Environment.

Not applicable.

d. Conclusions.

Weather was not a factor.

7. CREW QUALIFICATIONS

a. Mishap Pilot (Major Steven Plumhoff)

The Mishap Pilot (MP) completed the MH-53 pilot mission qualification course at Kirtland Air Force Base, New Mexico, on 30 Aug 1996. He was assigned to the 31st Special Operations Squadron from Sep 1996 to Aug 1997. He was then assigned to the 21st Special Operations Squadron from Aug 1997 to Jun 2001. He completed mission aircraft commander upgrade on 1 Jun 1998 and upgraded to Instructor Pilot on 17 Feb 1999 (Tab G, 23). He was assigned to the 551st Special Operations Squadron in Jun 2001. Maj Plumhoff was certified as an Evaluator Pilot on 6 Dec 01 at Kirtland AFB (Tab T, 8). In Oct 03 Maj Plumhoff volunteered to augment the 20th Special Operations Squadron on its continuous deployment to the Middle East AOR. He deployed to Hurlburt Field, Florida, for a brief train-up period. Due to differing currency requirements for formal schoolhouse instructors, he had to requalify in two events – Aircrew Eye/Respiratory Protection and Night Water Operations/Low Visibility Approaches – before deploying overseas. His was proficiency advanced during these requalifications due to "excellent aircraft control" and because he was a "seasoned instructor pilot." His evaluation for Low Visibility approaches labeled his instructor ability in Night Water Operations as "noteworthy" (Tab T, 3). On the day of the mishap Maj Plumhoff was current in all ground and flying training events. The MP was a highly experienced evaluator pilot with over 2,293 total hours, including 1,688 hours in the MH-53 (Tab G, 3).

Recent flight time is as follows (Tab G, 4):

	Hours	Sorties
30 days	29.0	10
60 days	34.3	14
90 days	43.3	16

b. Mishap Copilot (1st Lieutenant Christopher C. Richardson)

The Mishap Copilot (MCP) completed the MH-53 pilot mission qualification course at Kirtland Air Force Base, New Mexico, on 21 May 2003. He was assigned to the 20th Special Operations Squadron in July 2003 (Tab G, 26). 1Lt Richardson then received certification in Aircrew Eye/Respiratory Protection, Defensive Suppressive Fire, Night Emergency Procedures, Night Water Hoist and Low Visibility Approaches (Tab G, 27). During his training for Low Visibility Approaches, his instructor noted his strengths as "quickly grasped duties and not afraid to speak up" and graded him "Excellent" for the sortie (Tab T, 11). On the day of the mishap 1Lt Richardson was current in all ground and flying training events with the exception of Cargo Sling (Tab T, 9). The MCP was a qualified but inexperienced mission copilot with 450 total hours, including 238 hours in the MH-53 (Tab G, 7).

Recent flight time is as follows (Tab G, 8):

	Hours	Sorties
30 days	25.3	8
60 days	51.7	16
90 days	67.0	20

c. Mishap Flight Engineer (Staff Sergeant Thomas A. Walkup)

The Mishap Flight Engineer (MFE) completed the MH-53 flight engineer mission qualification course at Kirtland Air Force Base, New Mexico, on 13 May 2003. He was assigned to the 20th Special Operations Squadron in July 2003 (Tab G, 32). SSgt Walkup then received certification in Aircrew Eye/Respiratory Protection, Defensive Suppressive Fire, IDAS/MATT and Shipboard Operations (Tab G, 33). Although his unit training folder was misplaced after the mishap, MSgt Sean Nolan, a senior flight engineer instructor, stated that he had recorded in it that SSgt Walkup was a "sharp engineer;" "one of the smartest new engineers from the schoolhouse;" that he "grasped new ideas quickly;" and was "receptive and positive." On the day of the mishap SSgt Walkup was current in all ground and flying training events with the exception of Cargo Sling (Tab T, 17). The MFE was a qualified but inexperienced flight engineer with 294 total hours, including 294 hours in the MH-53 (Tab G, 14).

Recent flight time is as follows (Tab G, 15):

		Hours	Sorties
	30 days	30.1	9
	60 days	58.0	18
MH-53	90 days	76.0	25

d. Mishap Right Scanner (Technical Sergeant William J. Kerwood)

The Mishap Right Scanner (MRS) completed the MH-53 flight engineer mission qualification course at Kirtland Air Force Base, New Mexico, on 23 Mar 1992. TSgt Kerwood has had many MH-53 assignments in his 17 years of flying, including all three operational squadrons. He upgraded to instructor flight engineer on 17 Nov 97 (Tab G, 28). He is qualified in all aspects of the MH-53 mission (Tab G, 31). On the day of the mishap TSgt Kerwood was current in all ground and flying training events, and had recently completed his recurring QUAL/MSN flight evaluation in Aug 03 after returning from Operation Iraqi Freedom (Tab T, 12). The MFE was an extremely experienced instructor flight engineer with over 4,231 total hours, including 3,053 hours in the MH-53 (Tab G, 3).

Recent flight time is as follows (Tab G, 10):

	Hours	Sorties
30 days	25.4	7
60 days	54.5	18
90 days	74.0	27

e. Mishap Left Scanner (Technical Sergeant Howard A. Walters)

The Mishap Left Scanner (MLS) completed the MH-53 aerial gunner mission qualification course at Kirtland Air Force Base, New Mexico, on 14 Dec 95. He was assigned to the 20th Special Operations Squadron from Jan 96 to Dec 98, the 31st Special Operations Squadron from Dec 98 to Dec 99, and the 551st Special Operations Squadron from Dec 99 to Jun 03. TSgt Walters upgraded to instructor aerial gunner on 23 Mar 00. In Jun 03 he was reassigned to the 20th Special Operations Squadron (Tab G, 34). Due to differing currency requirements for formal schoolhouse instructors, he had to requalify in one event – Night Water Operations – before deploying overseas. He was proficiency advanced during this requalification due to his exceptional skills (Tab T, 15). On the day of the mishap TSgt Walters was current in all ground and flying training events with the exception of Combat Survival Training (Tab T, 16). The MLS was a highly experienced instructor aerial gunner with over 1,984 total hours, including 1,984 hours in the MH-53 (Tab G, 17).

Recent flight time is as follows (Tab G, 18):

	Hours	Sorties
30 days	26.8	8
60 days	58.3	17
90 days	73.7	24

f. Mishap Tail Scanner (Senior Master Sergeant Wayne C. Lopez)

The Mishap Tail Scanner (MTS) completed the MH-53 aerial gunner mission qualification

course at Kirtland Air Force Base, New Mexico, on 22 Apr 96. He was assigned to the 31st Special Operations Squadron from May 96 to Jun 97. In Jun 97 he was reassigned to the 20th Special Operations Squadron (Tab G, 37). On the day of the mishap SMSgt Lopez was current in all ground and flying training events. The MTS was a highly experienced mission aerial gunner with over 2,643 total hours, including 1,570 hours in the MH-53 (Tab G, 20).

Recent flight time is as follows (Tab G, 21):

	Hours	Sorties
30 days	24.3	7
60 days	31.8	10
90 days	36.7	12

8. MEDICAL

a. Qualifications.

The medical records of the six crewmembers of the MA were reviewed in entirety. All crewmembers had current Periodic Health Assessments, a current AF Form 1042, and appropriate pre-deployment medical screening. No previously identified or missed medical issues were a factor in this mishap. All MA crewmembers were medically qualified for flight duties.

b. Health.

The AIB medical advisor performed a comprehensive review of the post-accident medical records of the crew. In addition, the passengers with residual injuries and disability were interviewed, as well as their primary physicians. Of the MA crewmembers, the MTS sustained a left shoulder separation and is currently in the process of rehabilitation and will return to flying status. The MCP sustained a grade III concussion and is awaiting further medical evaluation prior to returning to flying status. The following two mishap passengers sustained injuries that will result in partial disability and potential end of active military service. Staff Sergeant Purser sustained multiple second and third degree burns that have required multiple surgeries, and will require further surgical and rehabilitative care. Specialist Craig sustained a C2 body and facet fracture and continues convalescence. All other MA passengers' injuries were minor and they have returned to full duty.

c. Pathology.

The deceased MA crewmembers and passenger died from a combination of blunt force trauma and thermal injuries. Evidence indicates that the deceased were likely incapacitated during the post crash sequence and fire and were unable to be extricated. Toxicology was obtained from the MP, MCP and MTS; it was negative, and noncontributory to the mishap.

d. Lifestyle.

There is no evidence that unusual habits, behavior, or stress on the part of the MC contributed to the accident (Tab V, 6.30).

e. Crew Rest and Crew Duty Time.

The AIB president and medical advisor extensively interviewed the surviving MA crewmembers, the crewmembers of Beatle 11, and members of the deployed Pavelow detachment senior leadership. The MC had appropriate crew rest the night prior to the incident and the local unit adhered to AF standard crew rest instructions. No evidence of fatigue was noted in the MC (Tab V, 5.2, 6.31, 15.4). The mishap occurred approximately eight to nine hours into the crew duty day, well within the fourteen-hour contingency crew duty day limitation (Tab BB, Vol. 3, 11). In summary, crew rest and crew duty day requirements of the MC were not contributory factors in this mishap.

The maintenance superintendent and multiple maintenance members were interviewed in reference to maintainer crew rest and duty time requirements. The maintenance crews at Bagram were working 12-hour shifts at the time of the mishap, within the standard of AFI 21-101 (Tab V, 11.14, 24.6-7).

9. OPERATIONS AND SUPERVISION

a. Operations.

The mishap unit has been deployed with at least one third of its assets for the Global War on Terrorism since Oct 01. The members of this unit have become well versed in the cycle of deployment and wartime operations. Many of the unit members had considerable experience in Afghanistan and in the AOR overall, and many of these were selected for this specific reason to deploy to Afghanistan in Nov 03. The operations tempo at the deployed location was relatively moderate. Crews were rotating every 3 days through 3 cycles: alert, flying scheduled missions and support/planning (Tab V, 21.4, 5.1). Operations tempo was not a factor.

b. Supervision.

The mission was a standard one that the deployed mission commander, Lt Col Slife, had approved for the mishap unit. He briefed his mission approval authority (CJSOAC) on a daily basis on the types of missions he was tasked to support by the ground force, regardless of its risk level. He also had direct contact with the TACON commander, the JSOACC, on a daily basis. In addition, Lt Col Slife maintained detailed awareness of each mission by regular contact with the flight lead aircraft commanders, his cadre of Afghanistan experienced pilots, even if he did not personally attend each mission briefing (Tab V, 21.2).

10. HUMAN FACTORS ANALYSIS

The primary human factor in this mishap that can be directly linked to a cause is VISION RESTRICTED BY WEATHER/HAZE/DARKNESS, which is a factor when it is determined by the investigator that weather, haze, or darkness restricted the vision of the individual to a point where normal crew duties were affected. The mishap occurred at 1657 L time, fourteen minutes after sunset. Multiple eyewitnesses described the current lighting conditions in the area as "pink" time, a common aviator term used to describe a time between sunset and the need to transition to night vision goggles. The mishap occurred alongside a riverbed at the bottom of a mountain valley. The combination of diminished lighting, irregular shadowing from the surrounding mountains, and the inherent poor contrast of the desert-like environment may have created a visual perception of a flat, obstruction free landing zone. The MP may have been unable to distinguish the presence of the earthen berm, that when impacted, disrupted the MA's landing sequence, resulting in the aircraft rolling (Tab F, 4; Tab V, 6.23).

WRITTEN PROCEDURES - INADEQUATE is a factor when the procedural guidance or publications have inadequate written procedures that contributed to an unsafe situation. This is the case with TO 1H-53(M)J-2-2CL-2, which provides guidance to weapons maintenance personnel. This TO requires the technicians to only measure the voltage in the auxiliary tank jettison system. Unfortunately, this fails to measure the resistance, and the actual current coming from the switch to the cartridges. The current is actually what causes the cartridges to fire, not the volts (Tab DD, 81, 109). Therefore, no appropriate functional check of the electrical portion of the auxiliary tank jettison system is ever performed. A faulty ground wire, loose connection or excessive corrosion could have limited the necessary current flow through the circuit to ignite the cartridges. This would not have been detected by the weapons technician while following the current TO guidance.

COMPLACENCY is a factor when the individual's state of reduced conscious attention due to an attitude of overconfidence or undermotivation leads to an unsafe situation. The MC failed to ensure all passengers were familiar with safety and emergency egress procedures prior to the final departure from Bagram. Passengers interviewed stated that they did not receive the passenger brief they expected to receive, and were thus unfamiliar with the procedures of the MA. Some had flown on helicopters before, but only one had flown on MH-53s (Tab V, 1.1, 3.1, 4.1, 9.1, 10.3). In addition, the MC did not ensure all passengers had a means of restraint within the cabin. Only one was equipped with a personal restraint device and used it appropriately (Tab V, 5.2). The assumption of the MC was that the passengers had already been briefed or were experienced "team" members and extremely familiar with the procedures to fly in an MH-53 (Tab V, 5.2, 5.116.15, 6.31-6.32, 8.4, 21.9). However, these passengers, not their normal supported customers, had been hurriedly added to the load plan at the last minute (Tab V, 6.15, 6.31-6.32, 8.4, 21.9). These 6 passengers had been manifested on a different type of helicopter earlier in the day, but that flight was cancelled (Tab V, 4.1). Though difficult to accomplish during an engine running onload, in accordance with the Flight Manual TO 1H-53(M)M-1, page 2-2 and 2-9, and AFI 11-2MH-53 Vol 3, paragraph 6.35.3.1.1. the aircraft commander must ensure supported forces are briefed on the mission profile and mission events before flight. It is unclear whether lack of the above led to any significant injuries. In the post-crash analysis, seating position in the MA was more directly related to severity of injury (Tab V, 5.2).

There are no other human factors that significantly contributed to this mishap.

11. GOVERNING DIRECTIVES AND PUBLICATIONS

a. Primary Operations Directives and Publications.

AFI 11-2MH-53,Volume 3, 5 Sep 2003
TO 1H-53(M)M-1, 31 Jan 2001

b. Maintenance Directives and Publications.

While there was no evidence of any maintenance personnel deviating from technical guidance, deficiencies with the auxiliary fuel tank jettison cartridge installation procedures were discovered. These procedures only verify that 28 volts DC is getting to the cartridge firing pin and that no stray voltage exists prior to reinstalling the explosive cartridges. Total resistance and resistance in the ground path is never measured. If the total resistance in the circuit is excessive (approximately 6 to 8 ohms), then the appropriate amount of amperage (2.2 amps) needed to fire the cartridge may not be available (Tab DD 119-128).

AFI 21-101, 1 Oct 2002
TO 1H-53(M)J-2-2CL-2, 30 Oct 2000
TO 1H-53(M)J-2-2, 15 Nov 2003
TO 1H-53(M)J-2-4, 15 Nov 2003
TO 1H-53(M)J-2-6, 15 Nov 2003

c. Known or Suspected Deviations from Directives or Publications.

(1) Mishap Crew.

None

(2) Lead Crew/Others.

None.

(3) Operations Supervision.

None.

(4) Maintenance.

None.

12. NEWS MEDIA INVOLVEMENT

There have been two official press releases from the Accident Investigation Board. Each of these provided only basic information as to the purpose and progress of the Board's investigation. These releases were approved by the Air Force Chief of Staff in accordance with AFI 51-503. In general, the news media has not shown high interest in the details of this mishap. Print media have covered such events as the memorial service for the deceased members; and the hometown papers of some of the survivors have done human interest-type stories. There have been no queries to either the Accident Investigation Board or Air Force Special Operations Command Public Affairs regarding this incident.

26 February 2004

STEVEN C. SPEER
Brigadier General, USAF
President, Accident Investigation Board

STATEMENT OF OPINION

MH-53M ACCIDENT, BAGRAM, AFGHANISTAN

23 NOVEMBER 2003

Under 10 U.S.C. 2254(d), any opinion of the accident investigators as to the cause of, or the factors contributing to, the accident set forth in the accident investigation report may not be considered as evidence in any civil or criminal proceeding arising from an aircraft accident, nor may such information be considered an admission of liability by the United States or by any person referred to in those conclusions or statements.

1. **CAUSE**: I find by clear and convincing evidence that the cause of this fatal mishap was a sequence of events initiated by mechanical failure of the number two engine, followed by an electrical failure of the auxiliary fuel tanks to jettison, and concluded with the uneven terrain features of the landing area causing the aircraft to break apart, roll inverted and burst into flames after touchdown.

2. **CONTRIBUTING FACTORS:** I find sufficient evidence to conclude that high altitude, routine high gross weights, failure of the remaining engine just prior to a precautionary landing (when demand for power to arrest the descent rate exceeded the engine capability), inadequate Technical Order guidance, factored together, all contributed to this accident. Only excellent aircrew coordination and training allowed the remaining aircrew and passengers to survive. Timely rescue and recovery by flight lead, Beatle 11, ensured survivors were extricated to safety and medical facilities in minimum time. Awareness of self Combat Rescue and Recovery procedures, miscommunication and coordination between multiple operations centers, medical facilities, aircraft and tower communications resulted in less than adequate medical response times at Bagram Field.

3. **BACKGROUND:** The board investigated the following areas and found them not to have contributed to this mishap: Hostile Action, Qualifications (both maintenance and operations), Operations Tempo, Crew Duty Day/Crew Rest, Supervision, Life Support, Weather or Medical. No evidence could be found to support any theory of hostile ground action against Beatle 11.

4. **DISCUSSION**: The Board discussed the mishap sequence in detail with surviving aircrew, passengers, Beatle 11 aircrew, supervision and technical experts from the depots, labs and other subject matter experts. The causes and contributing factors are detailed below.

a. The number two engine failure on Beatle 12 was caused by sustained high engine operating temperatures brought on by high engine speeds required at high altitudes and high gross weight. Excessive heat in the engine caused the compressor to rub against the engine casing. This compressor rub led to blade failure and engine compressor stall, which produced brief outbursts of flames and sparks. Additionally, prolonged anti-ice operations throughout the day could have contributed to the high engine temperatures. Analysis of recovered engine components determined that inlet guide vanes and engine performance indicators were the result of an engine not running or at ground idle at the time of impact, which is consistent with the

emergency steps for engine compressor stall (Tab DD, 1-4). Due to the high engine power setting at the onset of the engine failure, a decay of rotor RPM occurred. As the MP accelerated and reduced power to regain this rotor RPM, the MA developed a high sink rate that demanded an immediate reduction in weight, one that fuel dumping alone would not meet, due to a limited timeframe of about one minute until impact. There is evidence that the MA dispensed flares at the same time as the engine failure (Tab V, 5.2, 7.10, 16.2). This is likely the result of either an automatic dispense commanded by the Missile Warning System in response to engine flames, or a flare dispensed manually by a crewmember; however, no evidence supports any hostile ground fire.

b. The auxiliary fuel tank jettison system failure was causal such that failure of the jettison system to work resulted in the MA not having sufficient power remaining to overcome the high altitude and aircraft gross weight with only one operative engine. Had the aux tanks jettisoned, the MC could have maintained single engine flight back to Bagram. With the aux tanks still on, the MC was forced to land immediately. Extensive testing, including operational testing, was conducted on the fuel tanks release mechanism, electrical systems, and cartridges. Post-crash analysis on the jettison switches indicated they were in the up and on position. Release mechanisms indicate they were functioning at the time of the mishap (Tab DD, 5-117). Aircrew testimony indicated the MFE and MP discussed the failure of the tanks to jettison (Tab V, 5.3). It was determined that the cartridges did not ignite prior to impact. Engineers concluded the cartridges ignited during the post-impact fire (Tab DD, 45). A review of Technical Order guidance on the electrical continuity check of the jettison system found it to be inadequate to assess whether the jettison circuit could deliver the current/amperage required to activate the cartridges (Tab BB, 1-8). I conclude that failure of the auxiliary fuel tanks to jettison was the result of an undetected electrical circuit failure and not a failure of the cartridges, the mechanical release systems, or the MC.

c. The terrain features of the landing zone were causal in the outcome of this mishap. The mishap time of 1657L was after sunset (during what is called "Pink" time by flyers) and visual cues of the surrounding terrain were diminished. Shadowing in the river valley caused by surrounding high mountains; and sparse, arid and almost featureless contrasts on the ground made the precautionary landing zone appear to be a flat area. The MP, committed to landing due to little or no output of his remaining number one engine, made a controlled, roll-on landing in a nose up attitude with a forward speed and sink rate of approximately 50 knots and 500 FPM. A three foot high river bank, 180 feet from his touchdown point, caused the helicopter to become airborne, break off the tail boom and tail rotor, yaw to the right and roll left coming to rest 150 degrees from his approach axis, inverted and on fire. I believe this crash sequence would have been survivable if the terrain had been flat.

d. The number one engine contributed to this accident when the demand on the engine for power (additional torque) to arrest the sink rate in the descent/landing phase caused the engine's gas generator turbine to exceed maximum operating temperatures. Single engine capability did not exist at the weight and environmental conditions of the mishap. Analysis of the post-crash engine determined the gas generator turbine blades tips had burned off 0.25 inches (Tab DD, 1-4). This likely caused a compressor stall, explaining the pop heard just prior to

INDEX OF EXHIBITS

FLIGHT AUTHORIZATIO

1. PREPARED DATE:	2. MISSION NUMBER:	3. DEPARTURE LOCATION:	4. DESTINATION:
22-Nov-03	1XB2000PB327	OAIX	OAIX

5. MISSION SYMBOL AND PURPOSE:	PEID	6. SCHEDULED DEPARTURE DATE/TIME:	7. SCHEDULED RETURN DATE/TIME:
01A		23-Nov-03 / A/R	23-Nov-03 / A/R

8. AERO VEHICLE:	9. ACFT TAIL #:	10. CALL SIGN:
MH-53M		BEATTLE 12

11. CREW INFORMATION:

A. NAME	B. GRADE MIL/GS	C. SECURITY CLEARANCE	D. CREW POSITION	E. DUTY POSITION	F. REMARKS CODE	G. UNIT	H. CREW NUMBER	I. INIT FOR
PLUMHOFF, STEVEN	MAJ		EP	MP	A,	0551		
RICHARDSON, CHRISTOPHER	1LT		MC	MC	B	0020		
KERWOOD, WILLIAM J.	TSGT		IF	MF		0020		
WALKUP, THOMAS	SSGT		MF	MF	B	0020		
WALTERS, HOWARD A	TSGT		IG	MG	B	0020		
LOPEZ, WAYNE C	SMSGT		MG	MG		0020		

12. REMARKS (Variations in itinerary Authorized)

A - IN COMMAND
B - NON CURRENT
C - ACTING IN NEXT HIGHER QUAL FOR EVALUATION
D ACM STATUS, AUTHORIZED TO "OTHER" FLYING TIME
E - PRIMARY CREW MEMBER IN POSITION INDICATED
F - MISSION COMMANDER

QUALIFIED AIRCREW AUTHORIZED TO PERFORM FCF ENROUTI
G - Airborne Mission Commander (AMC)
J - In command for alternate mission
K - Aircraft commanders restricted
L - Scheduled evaluation

13. AUTHORIZATION DATE:	14 AUTH NUMBER:	15. DISTRIBUTION:
22-Nov-03	3167-04	1 - File

16 GO-NO-GO VERIFICATION

I certify go-no-go checks were accomplished for aircrew members listed above. As a minimum, flight physical, physical availablity, physiological training, emergency egress, local area survival, current ASC, aeronautical order effective/termination dates, and any other grounding events were checked. Individuals non-current for aircrew training or aircrew qualification have appropriate remarks codes assigned and an instructor is on-board for their crew speci

1COX2 Initials: MB OPS OFFICER REVIEW: _____ AIRCRAFT COMMANDER REVIEW: SP

IF CHANGES TO ORIGINAL CREW MEMBERS: I certify the above go-no-go checks were performed for aircrew member(s) added:

AIRCRAFT COMMANDER SIGNATURE: _____

17. DESTINATION AND LOCATION OF AUTHORIZING ACTIVITY

DEPARTMENT OF THE AIR FORCE
AIR FORCE SPECIAL OPERATIONS COMMAND
20th Special Operations Squadro
Hurlburt Field FL 32544-5000

18. SIGNATURE ELEMENT OF AUTHENTICATING OFFICIA

JOHN P. CONMY, MAJ, USAF
Mission Commander

AFSOC FORM 41, 1 JUN 1999 (*EF-V2* PREVIOUS EDITIONS ARE OBSOLETE

EOH REQ (T MUST FLY W/ INST) SEE EOH REM FOR SPECIFIC EVENTS

GO-NO-GO REPORT

22-NOV-03

Name	Rank	CP	ASC	AO Term Date	Av Svc Rsn	Alt Cham	Flight Physical	P-Status	Restriction Code	Task ID	Task Name	Last Accomp Flag	Last Acc Date	Due Date Flag	Due Date	Waiver Dt
Kerwood, William J	TSGT	F	GO	GO	Active	GO	GO	Qualified	W	G280A	9MM (53 ONLY)	GO	19-AUG-2002	GO	30-NOV-2003	
Richardson, Christopher C	1LT	C	GO	GO	Active	GO	GO	Qualified	I	CS01J	53 CARGO SLING	GO	03-OCT-2002		31-OCT-2003	
Walkup, Thomas A	SSGT	F	GO	GO	Active	GO	GO	Qualified	I	CS01J	53 CARGO SLING	GO	21-OCT-2002		31-OCT-2003	
Walters, Howard A	TSGT	G	GO	GO	Active	GO	GO	Qualified	I	LS17A	CDTQT (53 ONLY)	NO GO		GO		
									W	G006	M-203/40MM	NO GO		GO		

Plumhoff
Kerwood
Lopez
} clear

T-2

M- Mobility
G- Grounding

O- Must fly with Instructor on all TAC missions

CERTIFICATE OF AIRCREW QUALIFICATION

DATE COMPLETED: 9 Oct 03

I. EXAMINEE IDENTIFICATION

NAME	GRADE	SSAN
Plumhoff, Steven	Maj	

ORGANIZATION AND LOCATION	ACFT/CREW POSITION	ELIGIBILITY PERIOD
551 SOS, Kirtland AFB, NM	MH-53M/IP	N/A

II. QUALIFICATION

GROUND PHASE			FLIGHT PHASE	
EXAMINATION/CHECK	DATE	GRADE	MISSION/CHECK	DATE
			RQ INSTR	9 Oct 03
			RQ INSTR	
			RQ INSTR	
			RQ INSTR	
			RQ INSTR	

QUALIFICATION LEVEL		RESTRICTION (Explain in Comments)	ADDITIONAL TRAINING
QUALIFIED	UNQUALIFIED		DUE DATES
1		YES X NO	N/A
EXPIRATION DATE OF QUALIFICATION			DATE ADDITIONAL TRAINING COMPLETED
Mar 05			N/A

COMMENTS *(if more space is needed, continue on reverse)*

EXAMINER'S REMARKS:

A. Mission Description. Requalification for LVA due to unqualified status for water operations of greater than 2 years but less than 5, IAW AFI 11-202V1. Maj Plumhoff accomplished LVA (water) and simulated dust approaches to landing with goggles up, utilizing system displays. Instructor demonstration of low and slow maneuver was noteworthy. Qualification in this maneuver is required due to member augmenting OEF contingency operations with 20 SOS.

B. Discrepancies. None.

III. CERTIFICATION

	TYPED NAME AND GRADE	ORGANIZATION	CHECK: CONCUR	CHECK: DO NOT CONCUR	CHECK: REMARKS	SIGNATURE	DATE
1	FLIGHT EXAMINER William S. Berner, Lt Col	20 SOS/DOV			X		
2	REVIEWING OFFICER William S. Berner, Lt Col	20 SOS/DOV	X				
3	FINAL APPROVING OFFICER James C. Slife, Lt Col	20 SOS/DO	X				

I CERTIFY that I have been briefed and understand the action being taken this date.

DATE	TYPED NAME AND GRADE OF EXAMINEE	SIGNATURE
	Steven Plumhoff, Maj	

AF Form 8, May 85 (CG) *(SEMS Pro)* PREVIOUS EDITION WILL BE USED

COMMENTS - SPECIAL OPERATIONS TRAINING RECORD

NAME

DATE	TRAINING PERIOD	MISSION PROFILE / COMMENTS / RECOMMENDATIONS
7 Oct 03	Sequence of Trng	Recommend a sequence of training waiver for Maj Plumhoff to accomplish AN-2 prior to his AD-1 Maj Plumhoff is a seasoned instructor pilot previous certified in AERS – he should have no problem demonstrating proficiency in this task.
		A. E. Fiterre, Maj IP.
9 OCT 03	OPS EVAL	CONCUR WITH SOTU AND RECOMMENDATION FOR EVAL.
		Little S Berner, LTC
		BERNER, ATO

AF FORM 4110, 10 May 1999 (*EF-V1*)

MMENTS - SPECIAL OPERATIONS TR[illegible]G RECORD

NAME

DATE	TRAINING PERIOD	MISSION PROFILE / COMMENTS / RECOMMENDATIONS
7 OCT 03	AN-2	S: 1 COMPLETE
	NF-1	P: NVG SORTIE FLOWN AT HRT TRAFFIC PATTERN
	NW-1	EAST BAY AND LOCAL TRNG AREA WITH HOT
		GAS AT FLORALA. 1.0 IN TRAFFIC PATTERN WITH
		AERPS PRACTICING LVA APPROACHES WITH NUMEROUS
		A/E WORK. CONTINUED TO EAST BAY FOR NWO
		HOISTS AND SEVERAL LOW & SLOWS. COMPLETED 1
		SORTIE AT HRT WITH COUPLERS.
		S: EXCELLENT AIRCRAFT CONTROL ESPECIALLY WITH AERPS
		W: CROSS CHECK IN 100' HOIST BUT IMPROVED
		SIGNIFICANTLY TO BE WELL WITHIN STANDARDS
		R: PROFICIENCY ADVANCED FOR AD-1 (DAY AERPS) AND
		RECOMMEND FOR NWOPS CHECK RIDE
		Patrick L. Frank
		FRANK CAPT IP
9 Oct 03	DOT Review	Proceed with LVA cert & NWO Eval All training
		& RPL's met.
		[signature]
		A.E. Filler, Maj, 20505[illegible]

AF FORM 4110, 10 May 1999 (*EF-V1*)

SPECIAL OPERATION TRAINING RECORD

NAME																						REQ PROF LEVEL
CREW POSITION MH-53J/M ALL Jul 03	.OGRMD TRAINING PROFILE	AD 1		AN 2																		
COURSE/PHASE **AIRCREW EYE / RESPIRATORY PROTECTION (AERP)**	ACTUAL TRAINING PROFILE	PA		AN 2																		
TASK/TOPIC LISTING	MINIMUM EVENTS	P	K	P	K	P	K	P	K	P	K	P	K	P	K	P	K	P	K	P	K	
		GR		GR		GR		GR		GR		GR		GR		GR		GR		GR		
PREFLIGHT		3	C	3	C																	3C
TRANS SORTIE (DAY OR NIGHT)		3	C	3	C																	3C
AIE (All Crew, Any AIE)		3	C	3	C																	3C
TACTICAL FLIGHT (Night 1 hour min)		3	C	3	C																	3C
TERMINAL OPERATIONS		3	C	3	C																	3C
NIGHT WEAPON PREFLIGHT (FE/AG)				3	C																	3C
NIGHT GUNNERY (.50 or mini, Live or Dry))				3	C																	3C
INSTRAMENT APPROACH (Pilot, day or night)		3	C	3	C																	3C
SCANNING (FE,AG)		3	C	3	C																	3C
KNOWLEDGE OF SYSTEM		3	C	3	C																	3C
GRADE		S	S	S	S																	

I. FLIGHT RECORDS

A. INDIVIDUAL FLIGHT DATA AND FLYING HISTORY REPORT (MP)

PERSONAL DATA - PRIVACY ACT OF 1974 (5 USC 552a)

PREPARED 24 NOV 2003 15:57 INDIVIDUAL FLIGHT DATA AS OF 24 NOV 2003 PCN SA036-560

NAME: PLUMHOFF, STEVEN RANK: MAJ SSAN: PRI ACFT: MH053J
CREW POSN: EP AGE: LST PHYS: 24 MAR 03 API: 1 FAC: 2 ASC: 1A
DAFSC: 0011S3A LST CMBT: 16 MAR 00 MAJCOM: AET

(PART-1)

MDS:	MH053J	SMH053J	MH053M	MC130P	SMH053M	UH001N	SHH060G	MH060G	STH053A
CREW POSN:	EP	EP	EP	XP	MP	XP	XP	XP	ZP
SEQ NO:	01	02	03	04	05	06	07	08	00
TOTAL TIME:	915.9	123.5	409.3	4.9	0.8	2.3	1.5	2.0	31.2
PRIMARY:	312.7	57.2	148.0	0.0	0.8	0.0	0.7	2.0	14.2
SECONDARY:	233.6	44.0	126.4	0.0	0.0	0.0	0.8	0.0	17.0
INSTRUCTOR:	212.4	0.0	113.4	0.0	0.0	0.0	0.0	0.0	0.0
EVALUATOR:	69.8	11.9	1.4	0.0	0.0	0.0	0.0	0.0	0.0
OTHER:	87.4	10.8	24.1	4.9	0.0	2.3	0.0	0.0	0.0
COMBAT:	45.2	0.0	32.9	0.0	0.0	0.0	0.0	0.0	0.0
CMBT SUPT:	0.0	0.0	24.0	0.0	0.0	0.0	0.0	0.0	0.0
NVG:	352.2	4.0	168.8	0.0	0.0	0.0	0.0	0.0	0.0

MDS:	MH001H	MH053J	KC130R	MH001H	STH053A	ACFT
CREW POSN:	MC	MC	UC	UP	UP	TOTAL
SEQ NO:	00	00	00	00	00	
TOTAL TIME:	206.5	304.4	1.2	35.8	58.9	1941.5
PRIMARY:	128.1	174.5	0.0	30.6	33.9	825.6
SECONDARY:	48.2	108.9	0.0	4.3	2.3	523.7
INSTRUCTOR:	0.0	0.0	0.0	0.0	0.0	325.8
EVALUATOR:	0.0	0.0	0.0	0.0	0.0	71.2
OTHER:	30.5	21.2	1.2	0.9	22.7	195.2
COMBAT:	0.0	11.2	0.0	0.0	0.0	89.3
CMBT SUPT:	0.0	0.0	0.0	0.0	0.0	24.0
NVG:	0.0	59.9	0.0	0.0	0.0	580.9

TOTAL FLYING TIME: 1941.5 TOTAL PRIMARY/INSTRUCTOR TIME: 1224.3
GRAND TOTAL: 2293.3 MDS PRIMARY/INSTRUCTOR TIME: 1151.4

B. 30/60/90 DAY FLYING HISTORY REPORT (MP)

PREPARED 24 NOV 2003 15:57 INDIVIDUAL FLIGHT DATA AS OF 24 NOV 2003 PCN SA03% F60

NAME: PLUMHOFF, STEVEN RANK: MAJ SSAN: PRI ACFT: MH053J
CREW POSN: EP A LST FMTS: 24 MAR 03 AFF: 1 FAC: 2 ASC: 2A
DAFSC: Q011S3A LST CMBT: 16 MAR 00 MAJCOM: AET

AIRCRAFT TYPE REQUEST: ALL AIRCRAFT MDS REQUEST: %

(PART-2)

24 NOV	23 NOV	22 NOV	21 NOV	20 NOV	19 NOV	18 NOV	17 NOV	16 NOV	15 NOV
0.0	0.0	3.7	0.0	5.0	0.0	0.0	0.0	0.0	0.0
14 NOV	13 NOV	12 NOV	11 NOV	10 NOV	09 NOV	08 NOV	07 NOV	06 NOV	05 NOV
0.0	0.0	0.0	2.6	0.0	1.4	0.0	0.0	0.0	0.0
04 NOV	03 NOV	02 NOV	01 NOV	31 OCT	30 OCT	29 OCT	28 OCT	27 OCT	26 OCT
5.3	0.0	2.8	2.4	0.6	0.0	0.1	1.5	4.2	0.0

--- 30 DAYS TOTAL FLYING TIME: 29.0 DAYS FLOWN: 10 ---

25 OCT	24 OCT	23 OCT	22 OCT	21 OCT	20 OCT	19 OCT	18 OCT	17 OCT	16 OCT
0.0	0.0	0.0	0.1	0.0	2.4	1.8	0.0	0.0	0.0
15 OCT	14 OCT	13 OCT	12 OCT	11 OCT	10 OCT	09 OCT	08 OCT	07 OCT	06 OCT
1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
05 OCT	04 OCT	03 OCT	02 OCT	01 OCT	30 SEP	29 SEP	28 SEP	27 SEP	26 SEP
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

--- 60 DAYS TOTAL FLYING TIME: 34.3 DAYS FLOWN: 14 ---

25 SEP	24 SEP	23 SEP	22 SEP	21 SEP	20 SEP	19 SEP	18 SEP	17 SEP	16 SEP
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.1
15 SEP	14 SEP	13 SEP	12 SEP	11 SEP	10 SEP	09 SEP	08 SEP	07 SEP	06 SEP
0.0	0.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
05 SEP	04 SEP	03 SEP	02 SEP	01 SEP	31 AUG	30 AUG	29 AUG	28 AUG	27 AUG
0.0	3.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

--- 90 DAYS TOTAL FLYING TIME: 43.3 DAYS FLOWN: 16 ---

PAGE 2 PAGE 2

PERSONAL DATA - PRIVACY ACT OF 1974 (5 USC 552a)

C. FLIGHT TIME CATEGORIES AND FLIGHT CONDITION TIME SUMMARY (MP)

PERSONAL DATA - PRIVACY ACT OF 1974 (5 USC 552a)

PREPARED 26 NOV 2003 16:04 AIRCRAFT MISHAP INVESTIGATION (PA) AS OF 26 NOV 2003 PCN SA036-P20

NAME: PIJNENBPE, STEVEN GRADE: MAJ SSAN: XPI: 1 FAC: 2 ASC: LA DAFSC: Q011S1A AGE:
CND: AET WING: 0056SOMNG ORGANIZATION: 955190330 CREW POSITION: EP ASC DATE: 05 OCT 1998
CURR RATING: SENIOR PILOT AIRCRAFT TYPE: MH053M SERIAL NO: 625 MISHAP DATE: 23 NOV 2003

*** MISHAP AIRCRAFT ***

	PRI	SEC	INST	EVAL	OTHER	TOTAL	PRI/INST	NIGHT	IMC	SIM IMC	SORT
MH053M	144.0	126.4	113.4	1.4	24.1	409.3	257.4	102.7	5.5	11.8	194
LAST 30 DAYS	6.7	5.5	10.5	1.4	4.9	29.0	17.2	5.4	0.0	0.6	12
LAST 60 DAYS	9.2	8.3	10.5	1.4	4.9	34.3	19.7	7.0	0.0	0.6	17
LAST 90 DAYS	9.2	8.3	10.5	1.4	4.9	34.3	19.7	7.0	0.0	0.6	17

*** OTHER AIRCRAFT ***

	PRI	SEC	INST	EVAL	OTHER	TOTAL	PRI/INST	NIGHT	IMC	SIM IMC	SORT
MH053J	487.0	342.5	212.4	69.8	108.6	1220.3	699.4	111.4	14.4	36.9	555
LAST 30 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
LAST 60 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
LAST 90 DAYS	0.6	0.0	4.8	3.6	0.0	9.0	5.4	0.6	0.0	0.6	2
SMH053J	57.2	44.0	0.0	11.5	10.8	123.5	57.2	2.0	0.0	7.2	41
LAST 30 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
LAST 60 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
LAST 90 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
MC130P	0.0	0.0	0.0	0.0	4.9	4.9	0.0	0.0	0.0	0.0	1
LAST 30 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
LAST 60 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
LAST 90 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
SMH053M	0.8	0.0	0.0	0.0	0.0	0.8	0.8	0.0	0.0	0.0	1
LAST 30 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
LAST 60 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
LAST 90 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0

PERSONAL DATA - PRIVACY ACT OF 1974 (5 USC 552a)

PREPARED 24 NOV 2003 16:04 AIRCRAFT MISHAP INVESTIGATION (PA) AS OF 24 NOV 2003 PCN SA036-F20

NAME: PLUNKOFF, STEVEN GRADE: MAJ SSAN: API: 1 FAC: 2 ASC: 1A DAFSC: Q011S3A AGE:
CMD: AET WING: 0058SG/SAG ORGANIZATION: 0551SG/SSQ CREW POSITION: AP ASC DATE: 05 OCT 1994
CURR RATING: SENIOR PILOT AIRCRAFT TYPE: MH053M SERIAL NO: 625 MISHAP DATE: 23 NOV 2003

*** OTHER AIRCRAFT ***

	PRI	SEC	INST	EVAL	OTHER	TOTAL	PRI/INST	NIGHT	INS	SIM INS	SORT
1B100N	0.0	0.0	0.0	0.0	2.1	2.3	0.0	0.3	0.0	0.0	1
LAST 30 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
LAST 60 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
LAST 90 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
S1H060G	0.7	0.8	0.0	0.0	0.0	1.5	0.7	0.0	0.0	0.0	1
LAST 30 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
LAST 60 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
LAST 90 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
SH060G	2.0	0.0	0.0	0.0	0.0	2.0	2.0	0.0	0.0	0.0	1
LAST 30 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
LAST 60 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
LAST 90 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
HH60H	158.7	52.5	0.0	0.0	31.4	242.6	158.7	2.8	3.3	8.2	178
LAST 30 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
LAST 60 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
LAST 90 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0
KC130R	0.0	0.0	0.0	0.0	1.2	1.2	0.0	0.0	0.0	0.0	1
LAST 30 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
LAST 60 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
LAST 90 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0

PERSONAL DATA - PRIVACY ACT OF 1974 (5 USC 552a)

PREPARED 24 NOV 2003 16:04 AIRCRAFT MISHAP INVESTIGATION (PA) AS OF 24 NOV 2003 PCN SA036-F20

NAME: PLUNKOFF, STEVEN GRADE: MAJ SSAN: API: 1 FAC: 2 ASC: 1A DAFSC: Q011S3A AGE: 33
CMD: AET WING: 0058SG/SAG ORGANIZATION: 0551SG/SSQ CREW POSITION: AP ASC DATE: 05 OCT 1994
CURR RATING: SENIOR PILOT AIRCRAFT TYPE: MH053M SERIAL NO: 625 MISHAP DATE: 23 NOV 2003

*** OTHER AIRCRAFT ***

	PRI	SEC	INST	EVAL	OTHER	TOTAL	PRI/INST	NIGHT	INS	SIM INS	SORT
MH053M	487.0	342.5	212.4	69.8	108.6	1220.3	699.4	311.4	14.4	36.9	555
LAST 30 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
LAST 60 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
LAST 90 DAYS	0.6	0.0	4.8	3.6	0.0	9.0	5.4	0.6	0.0	0.6	2
S1H053A	14.2	17.0	0.0	0.0	0.0	31.2	14.2	0.0	0.0	0.8	11
LAST 30 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
LAST 60 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
LAST 90 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
TH053A	33.9	2.1	0.0	0.0	22.7	58.9	33.9	1.9	0.0	0.0	22
LAST 30 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
LAST 60 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
LAST 90 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0

*** CAREER TOTALS ***

CREW POSITION FIRST FLIGHT LAST FLIGHT	PRI	SEC	INST	EVAL	OTHER	TOTAL	PRI/INST TIME	STUDENT	COMBAT	COMBAT SUPPORT	SORT
PILOT 25 OCT 1994 22 NOV 2003	825.6	523.7	325.8	71.2	195.2	1941.5	1151.4	351.8	89.3	24.0	953

A. INDIVIDUAL FLIGHT DATA AND FLYING HISTORY REPORT (MC)

PERSONAL DATA - PRIVACY ACT OF 1974 (5 USC 552a)

PREPARED 23 NOV 2003 20:46 INDIVIDUAL FLIGHT DATA AS OF 23 NOV 2003 PCN SA036-F60

NAME: RICHARDSON, CHRISTOPHER C RANK: 1LT SSAN: PRI ACFT: MH053M
CREW POSN: MC AGE: LST PHYS: 17 SEP 03 API: 1 FAC: 1 ASC: 1A
DAFSC: 092T0 LST CHMB: 13 DEC 00 MAJCOM: SOC

(PART-1)

MDS:	MH053M	MH053J	SMH053M	SMH053J	SMH053J	MH053J	ACFT
CREW POSN:	MC	MC	MC	MC	UP	UP	TOTAL
SEQ NO:	01	02	03	04	00	00	
TOTAL TIME:	79.5	1.3	15.5	0.0	118.8	157.6	238.4
PRIMARY:	41.2	0.7	7.5	0.0	78.5	109.2	151.1
SECONDARY:	26.0	0.6	7.0	0.0	35.8	21.1	47.7
INSTRUCTOR:	0.0	0.0	0.0	0.0	0.0	0.0	0.0
EVALUATOR:	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER:	12.3	0.0	1.0	0.0	4.5	27.3	39.6
COMBAT:	48.6	0.0	0.0	0.0	0.0	0.0	48.6
CMBT SUPT:	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NVG:	40.0	0.0	0.0	0.0	4.0	45.7	85.7

TOTAL FLYING TIME: 238.4 TOTAL PRIMARY/INSTRUCTOR TIME: 237.1
GRAND TOTAL: 450.3 MDS PRIMARY/INSTRUCTOR TIME: 151.1

B. 30/60/90 DAY FLYING HISTORY REPORT (MC)

PERSONAL DATA - PRIVACY ACT OF 1974 (5 USC 552a)

PREPARED 23 NOV 2003 20:46 INDIVIDUAL FLIGHT DATA AS OF 23 NOV 2003 PCN SA036-P60

NAME: RICHARDSON, CHRISTOPHER C RANK: 1LT SSAN: PRI ACFT: MH053M
CREW POSN: MC AGE: LST PHYS: 17 SEP 03 API: 1 FAC: 1 ASC: 1A
DAFSC: 092T0 LST CHMB: 13 DEC 00 MAJCOM: SOC

AIRCRAFT TYPE REQUEST: ALL AIRCRAFT MDS REQUEST: %

(PART 2)

23 NOV	22 NOV	21 NOV	20 NOV	19 NOV	18 NOV	17 NOV	16 NOV	15 NOV	14 NOV
0.0	3.7	0.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0
13 NOV	12 NOV	11 NOV	10 NOV	09 NOV	08 NOV	07 NOV	06 NOV	05 NOV	04 NOV
0.0	0.0	2.6	0.0	1.4	0.0	0.0	0.0	0.0	0.0
03 NOV	02 NOV	01 NOV	31 OCT	30 OCT	29 OCT	28 OCT	27 OCT	26 OCT	25 OCT
2.4	3.0	0.0	0.0	0.0	0.0	4.7	2.5	0.0	0.0

30 DAYS TOTAL FLYING TIME: 25.3 DAYS FLOWN: 8

24 OCT	23 OCT	22 OCT	21 OCT	20 OCT	19 OCT	18 OCT	17 OCT	16 OCT	15 OCT
0.0	0.0	0.0	4.3	0.0	1.4	0.0	0.0	0.0	0.0
14 OCT	13 OCT	12 OCT	11 OCT	10 OCT	09 OCT	08 OCT	07 OCT	06 OCT	05 OCT
5.8	0.0	0.0	0.0	1.5	0.0	3.7	3.0	1.0	0.0
04 OCT	03 OCT	02 OCT	01 OCT	30 SEP	29 SEP	28 SEP	27 SEP	26 SEP	25 SEP
5.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

60 DAYS TOTAL FLYING TIME: 51.7 DAYS FLOWN: 16

24 SEP	23 SEP	22 SEP	21 SEP	20 SEP	19 SEP	18 SEP	17 SEP	16 SEP	15 SEP
0.0	0.0	0.0	0.0	0.0	0.0	4.3	0.0	0.0	1.3
14 SEP	13 SEP	12 SEP	11 SEP	10 SEP	09 SEP	08 SEP	07 SEP	06 SEP	05 SEP
0.0	0.0	0.0	0.0	2.7	0.0	0.0	0.0	0.0	0.0
04 SEP	03 SEP	02 SEP	01 SEP	31 AUG	30 AUG	29 AUG	28 AUG	27 AUG	26 AUG
0.0	7.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

90 DAYS TOTAL FLYING TIME: 67.0 DAYS FLOWN: 20

C. FLIGHT TIME CATEGORIES AND FLIGHT CONDITION TIME SUMMARY (MC)

PERSONAL DATA PRIVACY ACT OF 1974 (5 USC 552a)

PREPARED 24 NOV 2003 16:36 AIRCRAFT MISHAP INVESTIGATION (PA) AS OF 24 NOV 2003 PCN SA036-F20

NAME: RICHARDSON, CHRISTOPHER C GRADE: 1LT SSAN: . API: 1 FAC: 1 ASC: 1A DAFSC: 09220 AGE:
UND: SOC WING: 0016SOPWG ORGANIZATION: 0020SOPSQ CREW POSITION: MC ASC DATE: 14 JUL 2003
CURR RATING: PILOT AIRCRAFT TYPE: MH053M SERIAL NO: 1625 MISHAP DATE: 23 NOV 2003

*** MISHAP AIRCRAFT ***

	PRI	SEC	INST	EVAL	OTHER	TOTAL	PRI/INST	NIGHT	INS	SIM INS	SORT
MH053M	41.2	26.0	0.0	0.0	12.3	79.5	41.2	28.6	1.4	2.3	31
LAST 30 DAYS	16.2	9.9	0.0	0.0	1.2	25.3	16.2	9.6	0.0	0.3	9
LAST 60 DAYS	29.4	19.1	0.0	0.0	3.2	51.7	29.4	22.6	1.1	0.3	21
LAST 90 DAYS	34.4	22.4	0.0	0.0	8.9	65.7	34.4	26.6	1.1	1.0	25

*** OTHER AIRCRAFT ***

	PRI	SEC	INST	EVAL	OTHER	TOTAL	PRI/INST	NIGHT	INS	SIM INS	SORT
MH053J	109.9	21.7	0.0	0.0	27.3	158.9	109.9	15.0	1.0	0.0	55
LAST 30 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
LAST 60 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
LAST 90 DAYS	0.7	0.6	0.0	0.0	0.0	1.3	0.7	0.0	0.0	0.0	1
SSH053M	7.5	7.0	0.0	0.0	1.0	15.5	7.5	0.0	0.0	2.0	4
LAST 30 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
LAST 60 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
LAST 90 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
SH053J	78.5	35.0	0.0	0.0	4.5	118.0	78.5	2.5	0.0	0.0	32
LAST 30 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
LAST 60 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
LAST 90 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
MH053J	109.9	21.7	0.0	0.0	27.3	158.9	109.9	15.0	1.0	0.0	55
LAST 30 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
LAST 60 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
LAST 90 DAYS	0.7	0.6	0.0	0.0	0.0	1.3	0.7	0.0	0.0	0.0	1

PERSONAL DATA PRIVACY ACT OF 1974 (5 USC 552a)

PREPARED 24 NOV 2003 16:36 AIRCRAFT MISHAP INVESTIGATION (PA) AS OF 24 NOV 2003 PCN SA036-F

NAME: RICHARDSON, CHRISTOPHER C GRADE: 1LT SSAN: . API: 1 FAC: 1 ASC: 1A DAFSC: 09220 AGE:
UND: SOC WING: 0016SOPWG ORGANIZATION: 0020SOPSQ CREW POSITION: MC AST DATE: 14 JUL 2003
CURR RATING: PILOT AIRCRAFT TYPE: MH053M SERIAL NO: 1625 MISHAP DATE: 23 NOV 2003

*** OTHER AIRCRAFT ***

	PRI	SEC	INST	EVAL	OTHER	TOTAL	PRI/INST	NIGHT	INS	SIM INS	SO
MH053J	78.5	35.0	0.0	0.0	4.5	118.0	78.5	2.5	0.0	0.0	
LAST 30 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
LAST 60 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
LAST 90 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

*** CAREER TOTALS ***

CREW POSITION FIRST FLIGHT LAST FLIGHT	PRI	SEC	INST	EVAL	OTHER	TOTAL	PRI/INST TIME	STUDENT	COMBAT	COMBAT SUPPORT	SO
MC 14 AUG 2003 23 NOV 2003	151.1	47.7	1.0	0.0	39.5	239.4	151.1	21.9	48.6	0.0	

A. INDIVIDUAL FLIGHT DATA AND FLYING HISTORY REPORT (MRS)

PERSONAL DATA PRIVACY ACT OF 1974 (5 USC 552a)

PREPARED 23 NOV 2003 20:45 INDIVIDUAL FLIGHT DATA AS OF 23 NOV 2003 PCN SA036-F60

NAME: NERWOOD, WILLIAM J RANK: T3GT SSAN: PRI ACFT: MH053J
CREW POSN: IP AGE: LST EHYS: 30 JUL 03 API: A FAC: A ASC: CA
DAFSC: K1A171 LST CHMB: 27 JUL 00 MAJCOM: SOC

(PART-1)

MDS:	MH053J	SMH053J	MH053M	SMH053M	UH001N	STH053A	TH053A	NCR053J	ST001G
CREW POSN:	IP	IP	IP	IP	XP	IP	IP	NP	MG
SEQ NO:	01	02	03	04	05	00	00	00	00
TOTAL TIME:	2275.9	154.7	729.6	6.3	390.5	12.0	19.2	4.5	10.0
PRIMARY:	2135.0	134.9	637.0	4.3	377.6	6.0	19.2	4.5	10.0
SECONDARY:	5.1	0.0	2.0	0.0	11.1	6.0	0.0	0.0	0.0
INSTRUCTOR:	67.2	0.0	54.7	0.3	0.0	0.0	0.0	0.0	0.0
EVALUATOR:	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER:	67.7	19.8	35.9	1.7	1.8	0.0	0.0	0.0	0.0
COMBAT:	10.0	0.0	150.0	0.0	0.0	0.0	0.0	0.0	0.0
CMBT SUPT:	159.3	0.0	39.5	0.0	0.0	0.0	0.0	0.0	0.0
NVG:	292.9	0.0	197.7	0.0	0.0	0.0	0.0	0.0	0.0

MDS:	SH052G	B052G	CH053A	ACFT TOTAL
CREW POSN:	MG	MG	UP	
SEQ NO:	00	00	00	
TOTAL TIME:	103.9	787.6	24.0	4231.3
PRIMARY:	103.9	772.6	24.0	3969.9
SECONDARY:	0.0	1.0	0.0	19.2
INSTRUCTOR:	0.0	0.0	0.0	121.9
EVALUATOR:	0.0	0.0	0.0	0.9
OTHER:	0.0	14.0	0.0	119.4
COMBAT:	0.0	0.0	0.0	160.0
CMBT SUPT:	0.0	0.0	0.0	198.8
NVG:	0.0	0.0	0.0	490.6

TOTAL FLYING TIME: 4231.3 TOTAL PRIMARY/INSTRUCTOR TIME: 4351.2
GRAND TOTAL: 4231.3 MDS PRIMARY/INSTRUCTOR TIME: 4091.8

B. 30/60/90 DAY FLYING HISTORY REPORT (MRS)

PERSONAL DATA - PRIVACY ACT OF 1974 (5 USC 552a)

PREPARED 23 NOV 2003 20:45 INDIVIDUAL FLIGHT DATA AS OF 23 NOV 2003 PCN SA036-F60

NAME: KERWOOD, WILLIAM J RANK: TSGT SSAN: PRI ACFT: MH053J
CREW POSN: IF AGE: LST PHYS: 30 JUL 03 API: A FAC: A ASC: CA
DAFSC: K1A171 LST CHMB: 27 JUL 00 MAJCOM: SOC

AIRCRAFT TYPE REQUEST: ALL AIRCRAFT MDS REQUEST: %

(PART-2)

23 NOV	22 NOV	21 NOV	20 NOV	19 NOV	18 NOV	17 NOV	16 NOV	15 NOV	14 NOV
0.0	3.7	0.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0
13 NOV	12 NOV	11 NOV	10 NOV	09 NOV	08 NOV	07 NOV	06 NOV	05 NOV	04 NOV
0.0	0.0	2.6	0.0	0.0	0.0	0.0	0.0	0.0	5.3
03 NOV	02 NOV	01 NOV	31 OCT	30 OCT	29 OCT	28 OCT	27 OCT	26 OCT	25 OCT
2.4	0.0	0.0	0.0	0.0	0.0	4.7	0.0	0.0	1.7

--- 30 DAYS TOTAL FLYING TIME: 25.4 DAYS FLOWN: 7 ---

24 OCT	23 OCT	22 OCT	21 OCT	20 OCT	19 OCT	18 OCT	17 OCT	16 OCT	15 OCT
0.0	0.0	0.0	4.3	0.0	1.4	0.0	1.5	0.7	1.0
14 OCT	13 OCT	12 OCT	11 OCT	10 OCT	09 OCT	08 OCT	07 OCT	06 OCT	05 OCT
5.8	0.0	0.0	0.0	0.0	0.0	3.7	0.0	3.0	0.0
04 OCT	03 OCT	02 OCT	01 OCT	30 SEP	29 SEP	28 SEP	27 SEP	26 SEP	25 SEP
5.7	0.0	0.0	0.0	1.0	1.0	0.0	0.0	0.0	0.0

--- 60 DAYS TOTAL FLYING TIME: 54.5 DAYS FLOWN: 18

24 SEP	23 SEP	22 SEP	21 SEP	20 SEP	19 SEP	18 SEP	17 SEP	16 SEP	15 SEP
0.0	0.0	0.0	0.0	0.0	0.0	3.7	2.0	4.7	0.0
14 SEP	13 SEP	12 SEP	11 SEP	10 SEP	09 SEP	08 SEP	07 SEP	06 SEP	05 SEP
0.0	0.0	0.0	0.0	0.0	1.6	0.0	0.0	0.0	0.7
04 SEP	03 SEP	02 SEP	01 SEP	31 AUG	30 AUG	29 AUG	28 AUG	27 AUG	26 AUG
0.5	0.0	0.0	0.0	0.0	0.0	0.0	2.0	2.3	2.0

--- 90 DAYS TOTAL FLYING TIME: 74.0 DAYS FLOWN: 27 ---

C. FLIGHT TIME CATEGORIES AND FLIGHT CONDITION TIME SUMMARY (MRS)

PERSONAL DATA - PRIVACY ACT OF 1974 (5 USC 552a)

PREPARED 24 NOV 2003 16:36 AIRCRAFT MISHAP INVESTIGATION (PA) AS OF 24 NOV 2003 PCN SAU36-F20

NAME: KERWOOD, WILLIAM J GRADE: TSGT SSAN: API: A FAC: A ASC: CA DAFSC: X1A1?1 AGE:
CMD: SOC WING: 0016SOPWG ORGANIZATION: 0020SOPSQ CREW POSITION: IP ASC DATE: 18 NOV 2000
CURR RATING: AIRCRAFT TYPE: MH053M SERIAL NO: 70 1625 MISHAP DATE: 23 NOV 2003

*** MISHAP AIRCRAFT ***

	PRI	SEC	INST	EVAL	OTHER	TOTAL	PRI/INST	NIGHT	INS	SIM INS	SORT
MH053M	637.0	[illegible]	54.7	0.0	55.9	749.6	691.7	156.6	0.0	[illegible]	379
LAST 30 DAYS	21.1	0.0	1.?	0.0	2.6	25.4	22.8	14.4	0.0	[illegible]	8
LAST 60 DAYS	40.8	[illegible]	6.7	0.7	[illegible]	54.5	47.5	23.?	0.0	[illegible]	21
LAST 90 DAYS	44.?	[illegible]	11.4	0.0	[illegible]	63.5	55.5	[illegible]	0.0	[illegible]	22

*** OTHER AIRCRAFT ***

	PRI	SEC	INST	EVAL	OTHER	TOTAL	PRI/INST	NIGHT	INS	SIM INS	SORT
MH053J	2155.?	5.?	57.2	0.0	67.7	2275.0	2202.2	1137.?	0.0	0.0	969
LAST 30 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
LAST 60 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
LAST 90 DAYS	2.?	[illegible]	0.0	0.0	[illegible]	5.2	4.5	2.0	0.0	0.0	2
SMH053J	135.?	0.0	0.0	0.0	19.8	154.7	134.7	10.5	0.0	0.0	45
LAST 30 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
LAST 60 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
LAST 90 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
SMH053M	4.3	0.0	0.?	0.0	1.?	6.?	4.9	1.?	0.0	0.0	3
LAST 30 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
LAST 60 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
LAST 90 DAYS	4.?	0.0	0.?	0.0	1.?	6.?	4.6	1.?	0.0	[illegible]	3
[illegible]	437.6	[illegible]	0.8	0.0	1.5	450.5	[illegible]	[illegible]	0.0	[illegible]	3??
LAST 30 DAYS	0.0	0.0	0.0	0.0	[illegible]	0.0	0.0	[illegible]	0.0	[illegible]	[illegible]
LAST 60 DAYS	0.0	0.0	0.0	0.0	[illegible]	0.0	0.0	0.0	0.0	0.0	[illegible]
LAST 90 DAYS	0.0	0.0	0.0	0.0	[illegible]	0.0	0.0	0.0	0.0	0.0	[illegible]

PREPARED 24 NOV 2003 16:36 AIRCRAFT MISHAP INVESTIGATION (PA) AS OF 24 NOV 2003 PCN SAU36-F20

NAME: KERWOOD, WILLIAM J GRADE: TSGT SSAN: API: A FAC: A ASC: CA DAFSC: X1A1?1 AGE:
CMD: SOC WING: 0016SOPWG ORGANIZATION: 0020SOPSQ CREW POSITION: IP ASC DATE: 18 NOV 2000
CURR RATING: AIRCRAFT TYPE: MH053M SERIAL NO: 70-1625 MISHAP DATE: 23 NOV 2003

*** OTHER AIRCRAFT ***

	PRI	SEC	INST	EVAL	OTHER	TOTAL	PRI/INST	NIGHT	INS	SIM INS	SORT
B052G	772.6	1.?	0.0	0.0	14.0	787.6	772.6	2.0	0.0	0.0	129
LAST 30 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
LAST 60 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
LAST 90 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
CH053A	24.0	0.0	0.0	0.0	0.0	24.0	24.0	2.8	0.0	0.0	10
LAST 30 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
LAST 60 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
LAST 90 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
NCH053J	4.5	0.0	0.0	0.0	0.0	4.5	4.5	0.0	0.0	0.0	3
LAST 30 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
LAST 60 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
LAST 90 DAYS	0.0	0.0	0.0	0.0	0.0	[illegible]	0.0	0.0	0.0	0.0	0
ST0010	10.0	0.0	0.0	0.0	0.0	10.0	10.0	0.0	0.0	0.0	6
LAST 30 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
LAST 60 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
LAST 90 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
NTH053A	6.0	6.0	0.0	0.0	0.0	12.0	6.0	0.0	0.0	0.0	6
LAST 30 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
LAST 60 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
LAST 90 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0

PERSONAL DATA - PRIVACY ACT OF 1974 (5 USC 552a)

PREPARED 24 NOV 2003 16:46 AIRCRAFT MISHAP INVESTIGATION (PA) AS OF 24 NOV 2003 PCN SR036 F20

NAME: KISHWASH, WILLIAM J GRADE: TSGT SSAN: APC: A FAC: A ASC: CA DAFSC: 1A171 AGE:
CMD: SOC WING: 0016SOPSQ ORGANIZATION: 0020SOPSQ CREW POSITION: FE ASF DATE: 18 NOV 2000
CURR RATING: AIRCRAFT TYPE: MH53M SERIAL NO: 70-1625 MISHAP DATE: 23 NOV 2003

*** OTHER AIRCRAFT ***

	PRI	SEC	INST	EVAL	OTHER	TOTAL	PRI/INST	NIGHT	INS	SIM INS	SORT
[illegible]	103.9	0.0	0.0	0.0	0.0	103.9	103.9	0.0	0.0	0.0	46
LAST 30 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
LAST 60 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
LAST 90 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
TH53A	19.2	0.0	0.0	0.0	0.0	19.2	19.2	0.0	0.0	0.0	9
LAST 30 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
LAST 60 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
LAST 90 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0

*** CAREER TOTALS ***

CREW POSITION FIRST FLIGHT LAST FLIGHT	PRI	SEC	INST	EVAL	OTHER	TOTAL	PRI/INST TIME	STUDENT	COMBAT	COMBAT SUPPORT	SORT
AERIAL GUNNER 14 FEB 1986 22 DEC 1988	772.6	1.0	0.0	0.0	14.0	787.6	772.6	0.0	0.0	0.0	128
FLIGHT ENGINEER 30 MAR 1989 22 NOV 2003	3177.3	15.2	121.9	0.5	135.4	3443.7	3299.1	0.3	160.8	198.9	1589

A. INDIVIDUAL FLIGHT DATA AND FLYING HISTORY REPORT (MFE)

PERSONAL DATA - PRIVACY ACT OF 1974 (5 USC 552a)

PREPARED 23 NOV 2003 20:48 INDIVIDUAL FLIGHT DATA AS OF 23 NOV 2003 PCN SA036-F60

NAME: WALKUP, THOMAS A RANK: SSGT SSAN: PRI ACFT: MH053J
CREW POSN: MF AGE: LST PHYS: 29 JUL 03 AFI: A FAC: A ASC: AA
DAFSC: 1A111B LST CHMB: 06 MAY 02 MAJCOM: SOC

(PART-1)

MDS:	MH053J	SMH053J	MH053M	SMH053M	ACFT
CREW POSN:	MF	MF	MF	MF	TOTAL
SEQ NO:	01	02	03	04	
TOTAL TIME:	190.5	115.8	103.7	0.0	294.2
PRIMARY:	165.1	79.5	90.2	0.0	255.3
SECONDARY:	0.5	0.0	0.0	0.0	0.5
INSTRUCTOR:	0.0	0.0	0.0	0.0	0.0
EVALUATOR:	0.0	0.0	0.0	0.0	0.0
OTHER:	24.9	36.3	13.5	0.0	38.4
COMBAT:	0.0	0.0	53.6	0.0	53.6
CMBT SUPT:	0.0	0.0	0.0	0.0	0.0
NVG:	39.9	0.0	28.9	0.0	68.8

TOTAL FLYING TIME: 294.2 TOTAL PRIMARY/INSTRUCTOR TIME: 334.8
GRAND TOTAL: 294.2 MDS PRIMARY/INSTRUCTOR TIME: 255.3

B. 30/60/90 DAY FLYING HISTORY REPORT (MFE)

PERSONAL DATA PRIVACY ACT OF 1974 (5 USC 552a)

PREPARED 23 NOV 2003 20:48 INDIVIDUAL FLIGHT DATA AS OF 23 NOV 2003 PCN SA036-F60

NAME: WALKUP, THOMAS A RANK: SSGT SSAN: PRI ACFT: MH053J
CREW POSN: MF AGE: LST PHYS: 29 JUL 03 API: A FAC: A ASC: AA
DAFSC: 1A111B LST CHMB: 06 MAY 02 MAJCOM: SOC

AIRCRAFT TYPE REQUEST: ALL AIRCRAFT MDS REQUEST: *

(PART-2)

23 NOV	22 NOV	21 NOV	20 NOV	19 NOV	18 NOV	17 NOV	16 NOV	15 NOV	14 NOV
0.0	3.7	0.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0
13 NOV	12 NOV	11 NOV	10 NOV	09 NOV	08 NOV	07 NOV	06 NOV	05 NOV	04 NOV
0.0	0.0	2.6	0.0	1.4	0.0	0.0	0.0	0.0	5.3
03 NOV	02 NOV	01 NOV	31 OCT	30 OCT	29 OCT	28 OCT	27 OCT	26 OCT	25 OCT
2.4	0.0	0.0	0.0	0.0	0.0	3.8	4.2	0.0	1.7

--- 30 DAYS TOTAL FLYING TIME: 30.1 DAYS FLOWN: 9 ---

24 OCT	23 OCT	22 OCT	21 OCT	20 OCT	19 OCT	18 OCT	17 OCT	16 OCT	15 OCT
0.0	0.0	0.0	4.3	0.0	1.4	0.0	2.0	0.0	0.0
14 OCT	13 OCT	12 OCT	11 OCT	10 OCT	09 OCT	08 OCT	07 OCT	06 OCT	05 OCT
5.8	0.0	0.0	0.0	0.0	0.0	3.7	0.0	3.0	0.0
04 OCT	03 OCT	02 OCT	01 OCT	30 SEP	29 SEP	28 SEP	27 SEP	26 SEP	25 SEP
5.7	0.0	0.0	0.0	1.0	1.0	0.0	0.0	0.0	0.0

60 DAYS TOTAL FLYING TIME: 58.0 DAYS FLOWN: 18 ---

24 SEP	23 SEP	22 SEP	21 SEP	20 SEP	19 SEP	18 SEP	17 SEP	16 SEP	15 SEP
0.0	0.0	0.0	0.0	0.0	3.5	3.3	0.0	0.0	1.3
14 SEP	13 SEP	12 SEP	11 SEP	10 SEP	09 SEP	08 SEP	07 SEP	06 SEP	05 SEP
0.0	0.0	0.0	1.5	0.0	0.0	0.0	0.0	0.0	0.0
04 SEP	03 SEP	02 SEP	01 SEP	31 AUG	30 AUG	29 AUG	28 AUG	27 AUG	26 AUG
0.0	6.4	0.2	0.0	0.0	0.0	0.0	0.0	1.8	0.0

--- 90 DAYS TOTAL FLYING TIME: 76.0 DAYS FLOWN: 25 ---

C. FLIGHT TIME CATEGORIES AND FLIGHT CONDITION TIME SUMMARY (MRS)

PERSONAL DATA PRIVACY ACT OF 1974 (5 USC 552a)

PREPARED 24 NOV 2003 16:38 AIRCRAFT MISHAP INVESTIGATION (PA) AS OF 24 NOV 2003 PCN SA036-F20

NAME: WALKUP, THOMAS A GRADE: SSGT SSAN: API: A FAC: A ASC: AA DAFSC: 1A111B AGE:
CMD: SOC WING: 0016SOPWG ORGANIZATION: 0020SOPSQ CREW POSITION: MF ASC DATE: 12 JUN 2003
CURR RATING: AIRCRAFT TYPE: MH053M SERIAL NO: 1625 MISHAP DATE: 23 NOV 2003

*** MISHAP AIRCRAFT ***

	PRI	SEC	INST	EVAL	OTHER	TOTAL	PRI/INST	NIGHT	INS	SIM INS	SORT
MH053M	92.2	0.0	0.0	0.0	11.5	103.7	98.2	48.5	0.0	0.0	42
LAST 30 DAYS	25.9	0.0	0.0	0.0	4.2	30.1	25.9	15.5	0.0	0.0	12
LAST 60 DAYS	51.3	0.0	0.0	0.0	6.9	58.2	51.3	31.0	0.0	0.0	23
LAST 90 DAYS	55.6	0.0	0.0	0.0	11.1	76.7	61.6	37.5	0.0	0.0	31

*** OTHER AIRCRAFT ***

	PRI	SEC	INST	EVAL	OTHER	TOTAL	PRI/INST	NIGHT	INS	SIM INS	SORT
MH053J	165.1	0.5	0.0	0.0	24.9	190.5	165.1	73.0	0.0	0.0	61
LAST 30 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
LAST 60 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
LAST 90 DAYS	1.1	0.0	0.0	0.0	0.0	1.1	1.1	0.0	0.0	0.0	1
SMH053J	79.5	0.0	0.0	0.0	56.3	135.8	79.5	2.0	0.0	0.0	37
LAST 30 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
LAST 60 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
LAST 90 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
SMH053M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
LAST 30 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
LAST 60 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
LAST 90 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0

PERSONAL DATA PRIVACY ACT OF 1974 (5 USC 552a)

PREPARED 24 NOV 2003 16:38 AIRCRAFT MISHAP INVESTIGATION (PA) AS OF 24 NOV 2003 PCN SA036 F20

NAME: WALKUP, THOMAS A GRADE: SSGT SSAN: API: A FAC: A ASC: AA DAFSC: 1A111B AGE: 35
CMD: SOC WING: 0016SOPWG ORGANIZATION: 0020SOPSQ CREW POSITION: MF ASC DATE: 12 JUN 2003
CURR RATING: AIRCRAFT TYPE: MH053M SERIAL NO: 1625 MISHAP DATE: 23 NOV 2003

*** CAREER TOTALS ***

CREW POSITION FIRST FLIGHT LAST FLIGHT	PRI	SEC	INST	EVAL	OTHER	TOTAL	PRI/INST TIME	STUDENT	COMBAT	COMBAT SUPPORT	SORT
FLIGHT ENGINEER 17 JUL 2002 22 NOV 2003	255.3	0.5	0.0	0.0	38.4	294.2	255.3	0.0	53.6	0.0	101

A. INDIVIDUAL FLIGHT DATA AND FLYING HISTORY REPORT (MLS)

PERSONAL DATA - PRIVACY ACT OF 1974 (5 USC 552a)

PREPARED 23 NOV 2003 20:45 INDIVIDUAL FLIGHT DATA AS OF 23 NOV 2003 PCN SA036-F60

NAME: WALTERS, HOWARD A RANK: TSGT SSAN: PRI ACFT: MH053J
CREW POSN: IG AGE: LST PHYS: 02 DEC 02 API: A FAC: A ASC: AA
DAFSC: K1A771 LST CHMB: 14 MAR 00 MAJCOM: SOC

(PART-1)

MDS:	MH053J	MH053M	SMH053J	STH053A	TH053A	ACFT
CREW POSN:	IG	IG	IG	IG	IG	TOTAL
SEQ NO:	01	02	03	00	00	
TOTAL TIME:	1716.9	86.9	7.5	0.0	180.9	1984.7
PRIMARY:	1403.5	77.1	7.5	0.0	154.9	1635.5
SECONDARY:	0.8	0.0	0.0	0.0	0.0	0.8
INSTRUCTOR:	261.6	6.5	0.0	0.0	22.0	290.1
EVALUATOR:	0.0	0.0	0.0	0.0	0.0	0.0
OTHER:	51.0	3.3	0.0	0.0	4.0	58.3
COMBAT:	30.2	65.7	0.0	0.0	0.0	95.9
CMBT SUPT:	4.0	0.0	0.0	0.0	0.0	4.0
NVG:	928.4	54.3	0.0	0.0	2.4	985.1

TOTAL FLYING TIME: 1984.7 TOTAL PRIMARY/INSTRUCTOR TIME: 1933.1
GRAND TOTAL: 1984.7 MDS PRIMARY/INSTRUCTOR TIME: 1925.6

B. 30/60/90 DAY FLYING HISTORY REPORT (MLS)

PERSONAL DATA - PRIVACY ACT OF 1974 (5 USC 552a)

PREPARED 23 NOV 2003 20:45 INDIVIDUAL FLIGHT DATA AS OF 23 NOV 2003 PCN SA036-F60

NAME: WALTERS, HOWARD A RANK: TSGT SSAN: PRI ACFT: MH053J
CREW POSN: TG AGE: LST PHYS: 02 DEC 02 API: A FAC: A ASC: AA
DAFSC: K1A771 LST CHME: 14 MAR 00 MAJCOM: SOC

AIRCRAFT TYPE REQUEST: ALL AIRCRAFT MDS REQUEST: *

(PART 2)

23 NOV	22 NOV	21 NOV	20 NOV	19 NOV	18 NOV	17 NOV	16 NOV	15 NOV	14 NOV
0.0	3.7	0.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0
13 NOV	12 NOV	11 NOV	10 NOV	09 NOV	08 NOV	07 NOV	06 NOV	05 NOV	04 NOV
0.0	0.0	2.6	0.0	1.4	0.0	0.0	0.0	0.0	5.3
03 NOV	02 NOV	01 NOV	31 OCT	30 OCT	29 OCT	28 OCT	27 OCT	26 OCT	25 OCT
2.4	0.0	0.0	0.0	0.0	0.0	4.7	0.0	0.0	1.7

-- 30 DAYS TOTAL FLYING TIME: 26.8 DAYS FLOWN: 8 --

24 OCT	23 OCT	22 OCT	21 OCT	20 OCT	19 OCT	18 OCT	17 OCT	16 OCT	15 OCT
0.0	0.0	0.0	4.3	0.0	1.4	0.0	0.0	0.0	1.7
14 OCT	13 OCT	12 OCT	11 OCT	10 OCT	09 OCT	08 OCT	07 OCT	06 OCT	05 OCT
5.8	0.0	0.0	0.0	0.0	0.0	3.7	0.0	0.0	0.0
04 OCT	03 OCT	02 OCT	01 OCT	30 SEP	29 SEP	28 SEP	27 SEP	26 SEP	25 SEP
5.7	0.0	0.0	5.2	0.0	1.0	0.0	0.0	0.0	2.7

--- 60 DAYS TOTAL FLYING TIME: 58.3 DAYS FLOWN: 17 ---

24 SEP	23 SEP	22 SEP	21 SEP	20 SEP	19 SEP	18 SEP	17 SEP	16 SEP	15 SEP
1.2	0.0	2.0	2.2	0.0	0.0	0.0	0.0	0.0	3.4
14 SEP	13 SEP	12 SEP	11 SEP	10 SEP	09 SEP	08 SEP	07 SEP	06 SEP	05 SEP
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.2	2.5
04 SEP	03 SEP	02 SEP	01 SEP	31 AUG	30 AUG	29 AUG	28 AUG	27 AUG	26 AUG
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.0

--- 90 DAYS TOTAL FLYING TIME: 73.7 DAYS FLOWN: 24 ---

C. FLIGHT TIME CATEGORIES AND FLIGHT CONDITION TIME SUMMARY (MLS)

PERSONAL DATA - PRIVACY ACT OF 1974 (5 USC 552a)

PREPARED 24 NOV 2003 16:37 AIRCRAFT MISHAP INVESTIGATION (PA) AS OF 24 NOV 2003 PGM SA016 P20

NAME: WALTERS, HOWARD A GRADE: TSGT SSAN: API: A FAC: A ASC: AA DAFSC: XIA771 AGE:
CNO: SOC MTN: 0016SOPWS ORGANIZATION: 0020SOPSO CREW POSITION: IG ASC DATE: 28 AUG 1995
CURR RATING: AIRCRAFT TYPE: MH053M SERIAL NO: 1625 MISHAP DATE: 23 NOV 2003

*** MISHAP AIRCRAFT ***

	PRI	SEC	INST	EVAL	OTHER	TOTAL	PRI/INST	NIGHT	INS	SIM INS	SORTI
MH053M	77.1	0.0	6.6	0.0	2.1	85.8	83.6	50.1	0.0	0.0	33
LAST 30 DAYS	23.5	0.0	0.0	0.0	3.3	26.8	23.5	15.4	0.0	0.0	9
LAST 60 DAYS	52.3	0.0	0.7	0.0	3.3	56.3	55.0	33.6	0.0	0.0	20
LAST 90 DAYS	66.3	0.0	3.2	0.0	3.3	72.7	70.4	43.8	0.0	0.0	28

*** OTHER AIRCRAFT ***

	PRI	SEC	INST	EVAL	OTHER	TOTAL	PRI/INST	NIGHT	INS	SIM INS	SORTI
MH053J	1493.5	0.0	223.6	0.0	51.0	1716.9	1669.1	591.1	0.0	0.0	653
LAST 30 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
LAST 60 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
LAST 90 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
MH060K	7.5	0.0	0.0	0.0	0.0	7.5	7.5	0.0	0.0	0.0	2
LAST 30 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
LAST 60 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
LAST 90 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
MH053A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
LAST 30 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
LAST 60 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
LAST 90 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
UH053A	154.0	0.0	22.0	0.0	4.0	180.9	176.9	5.5	0.0	0.0	75
LAST 30 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
LAST 60 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
LAST 90 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0

PREPARED 24 NOV 2003 16:37 AIRCRAFT MISHAP INVESTIGATION (PA) AS OF 24 NOV 2003 PGM SA016 P20

NAME: WALTERS, HOWARD A GRADE: TSGT SSAN: API: A FAC: A ASC: AA DAFSC: XIA771 AGE: 33
CNO: SOC MTN: 0016SOPWS ORGANIZATION: 0020SOPSO CREW POSITION: IG ASC DATE: 28 AUG 1995
CURR RATING: AIRCRAFT TYPE: MH053M SERIAL NO: 1625 MISHAP DATE: 23 NOV 2003

*** CAREER TOTALS ***

CREW POSITION FIRST FLIGHT LAST FLIGHT	PRI	SEC	INST	EVAL	OTHER	TOTAL	PRI/INST TIME	STUDENT	COMBAT	COMBAT SUPPORT	SORTI
AERIAL GUNNER 11 JAN 1995 22 NOV 2003	1639.5	0.0	280.1	0.0	58.3	1984.7	1925.6	0.0	95.0	4.0	761

A. INDIVIDUAL FLIGHT DATA AND FLYING HISTORY REPORT (MTS)

PERSONAL DATA PRIVACY ACT OF 1974 (5 USC 552a)

PREPARED 23 NOV 2003 20:47 INDIVIDUAL FLIGHT DATA AS OF 23 NOV 2003 PCN SA036-F60

NAME: LOPEZ, WAYNE C RANK: SMG SSAN: PRI ACFT: MH053M
CREW POSN: MG AGE: LST PHYS: 10 SEP 03 API: A FAC: A ASC: BA
DAFSC: 1A771 LST CHMB: 14 AUG 03 MAJCOM: SOC

(PART 1)

MDS:	MH053M	MH053J	SMH053J	TH053A	AC130H	AC130U	ACFT
CREW POSN:	MG	MG	MG	MG	MG	XG	TOTAL
SEQ NO:	01	02	03	04	00	00	
TOTAL TIME:	787.8	715.2	16.0	67.3	1069.6	3.2	2643.1
PRIMARY:	758.3	696.8	16.0	67.3	989.2	0.0	2511.6
SECONDARY:	0.0	0.0	0.0	0.0	4.4	0.0	4.4
INSTRUCTOR:	0.0	0.0	0.0	0.0	74.6	0.0	74.6
EVALUATOR:	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER:	29.5	18.4	0.0	0.0	1.4	3.2	52.5
COMBAT:	71.6	0.0	0.0	0.0	28.4	0.0	100.0
CMBT SUPT:	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NVG:	472.9	300.8	8.0	0.0	0.0	0.0	773.7

TOTAL FLYING TIME:	2643.1	TOTAL PRIMARY/INSTRUCTOR TIME:	2602.2
GRAND TOTAL:	2643.1	MDS PRIMARY/INSTRUCTOR TIME:	2586.2

B. 30/60/90 DAY FLYING HISTORY REPORT (MTS)

PERSONAL DATA - PRIVACY ACT OF 1974 (5 USC 552a)

PREPARED 23 NOV 2003 20:47 INDIVIDUAL FLIGHT DATA AS OF 23 NOV 2003 PCN SA036-P60

NAME: LOPEZ, WAYNE C RANK: SMS SSAN: PRI ACFT: MH053M
CREW POSN: MG AGE LST PHYS: 10 SEP 03 API: A FAC: A ASC: BA
DAFSC: 1A771 LST CHMB: 14 AUG 03 MAJCOM: SOC

AIRCRAFT TYPE REQUEST: ALL AIRCRAFT MDS REQUEST: %

(PART-2)

23 NOV	22 NOV	21 NOV	20 NOV	19 NOV	18 NOV	17 NOV	16 NOV	15 NOV	14 NOV
0.0	3.7	0.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0
13 NOV	12 NOV	11 NOV	10 NOV	09 NOV	08 NOV	07 NOV	06 NOV	05 NOV	04 NOV
0.0	0.0	2.6	0.0	1.4	0.0	0.0	0.0	0.0	5.3
03 NOV	02 NOV	01 NOV	31 OCT	30 OCT	29 OCT	28 OCT	27 OCT	26 OCT	25 OCT
0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.3	0.0	0.0

--- 30 DAYS TOTAL FLYING TIME: 24.3 DAYS FLOWN: 7 ---

24 OCT	23 OCT	22 OCT	21 OCT	20 OCT	19 OCT	18 OCT	17 OCT	16 OCT	15 OCT
0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	1.0
14 OCT	13 OCT	12 OCT	11 OCT	10 OCT	09 OCT	08 OCT	07 OCT	06 OCT	05 OCT
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
04 OCT	03 OCT	02 OCT	01 OCT	30 SEP	29 SEP	28 SEP	27 SEP	26 SEP	25 SEP
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.5

60 DAYS TOTAL FLYING TIME: 31.8 DAYS FLOWN: 10 ---

24 SEP	23 SEP	22 SEP	21 SEP	20 SEP	19 SEP	18 SEP	17 SEP	16 SEP	15 SEP
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.7	0.0
14 SEP	13 SEP	12 SEP	11 SEP	10 SEP	09 SEP	08 SEP	07 SEP	06 SEP	05 SEP
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
04 SEP	03 SEP	02 SEP	01 SEP	31 AUG	30 AUG	29 AUG	28 AUG	27 AUG	26 AUG
0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0

90 DAYS TOTAL FLYING TIME: 36.7 DAYS FLOWN: 12 ---

C. FLIGHT TIME CATEGORIES AND FLIGHT CONDITION TIME SUMMARY (MTS)

PERSONAL DATA PRIVACY ACT OF 1974 (5 USC 552a)

PREPARED 24 NOV 2003 16:37 AIRCRAFT MISHAP INVESTIGATION (PA) AS OF 24 NOV 2003 PCN 2A026-F20

NAME: LOPEZ, WAYNE C GRADE: SMS SSAN: API: A FAC: A ASC: BA DAFSC: 1A771 AGE:
CMD: SOF WING: 001SOPMS ORGANIZATION: 0020SOPSO CREW POSITION: NG ASC DATE: 14 NOV 2000
CURR RATING: AIRCRAFT TYPE: MH053M SERIAL NO: 1625 MISHAP DATE: 21 NOV 2003

*** MISHAP AIRCRAFT ***

	PRI	SEC	INST	EVAL	OTHER	TOTAL	PRI/INST	NIGHT	INS	SIM INS	SORTI
MH053M	759.3	0.0	0.0	0.0	59.5	191.8	759.3	459.3	0.0	0.0	119
LAST 30 DAYS	21.2	0.0	0.0	0.0	3.1	24.3	21.0	15.3	0.0	0.0	3
LAST 60 DAYS	28.6	0.0	0.0	0.0	3.1	31.8	28.5	21.4	0.0	0.0	15
LAST 90 DAYS	35.9	0.0	0.0	0.0	3.1	43.0	28.9	24.6	0.0	0.0	16

*** OTHER AIRCRAFT ***

	PRI	SEC	INST	EVAL	OTHER	TOTAL	PRI/INST	NIGHT	INS	SIM INS	SORTI
MH60S	696.8	0.0	0.0	0.0	15.4	712.2	696.8	429.0	0.0	2.0	397
LAST 30 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
LAST 60 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
LAST 90 DAYS	4.7	0.0	0.0	0.0	0.0	4.7	4.7	4.7	0.0	0.0	1
MH60S(I)	16.0	0.0	0.0	0.0	0.0	16.0	16.0	9.0	0.0	0.0	1
LAST 30 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
LAST 60 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
LAST 90 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
MH60S(A	67.3	0.0	0.0	0.0	0.0	67.3	67.3	0.0	0.0	0.0	27
LAST 30 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
LAST 60 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
LAST 90 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
MH53M	989.2	0.0	74.5	0.0	1.4	1069.5	1063.5	0.0	0.0	0.0	24
LAST 30 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
LAST 60 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
LAST 90 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0

PREPARED 24 NOV 2003 16:37 AIRCRAFT MISHAP INVESTIGATION (PA) AS OF 24 NOV 2003 PCN 2A026-F20

NAME: LOPEZ, WAYNE C GRADE: SMS SSAN: API: A FAC: A ASC: BA DAFSC: 1A771 AGE: 37
CMD: SOF WING: 001SOPMS ORGANIZATION: 0020SOPSO CREW POSITION: NG ASC DATE: 14 NOV 2000
CURR RATING: AIRCRAFT TYPE: MH053M SERIAL NO: 1625 MISHAP DATE: 21 NOV 2003

*** OTHER AIRCRAFT ***

	PRI	SEC	INST	EVAL	OTHER	TOTAL	PRI/INST	NIGHT	INS	SIM INS	SORTI
MC130U	0.0	0.0	0.0	0.0	3.2	3.2	0.0	0.0	0.0	0.0	1
LAST 30 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
LAST 60 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
LAST 90 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0

*** CAREER TOTALS ***

CREW POSITION FIRST FLIGHT LAST FLIGHT	PRI	SEC	INST	EVAL	OTHER	TOTAL	PRI/INST TIME	STUDENT	COMBAT	COMBAT SUPPORT	SORTI
AERIAL GUNNER 11 FEB 1991 20 NOV 2003	2511.6	5.4	76.6	0.0	52.5	2641.1	2586.2	0.0	100.0	2.0	880

II. FLIGHT EVALUATION AND TRAINING RECORDS

A. AF FORM 942, 1381 (MP)

RECORD OF EVALUATION

NAME (Last, First, Middle Initial): Plumhoff, Steven — SSN:

TYPE AIR-CRAFT	TYPE OF EVALUATION	DATE COMPLETED	QUALIFICATION LEVEL (COMMANDER)	TYPE AIR-CRAFT	TYPE OF EVALUATION	DATE COMPLETED	QUALIFICATION LEVEL (COMMANDER)
	ASSIGNED 514 FLTS	19940901		MH-53M	MSN	20010326	1 (AFSOC)
	INITIAL REVIEW	19941005		MH-53M	RQ MSN (NWO)	20010419	1 (AFSOC)
HH-1H	INIT QUAL/INSTM	19941220	Q (AFMC)	MH-53M	QUAL/INSTM	20010710	1 (AFSOC)
	ANNUAL REVIEW	19950314			AETC		
	ASSIGNED 551 SOS		(AETC)	MH-53J	N/N SPOT	20010129	1 (AETC)
TH-53A	Initial Qualification	19960129	FC Q (AETC)		Annual Review	20020117	(AETC)
TH-53A	Init SME (Cargo Sling)	19960129	FC Q (AETC)	MH-53J	MSN	20020815	1 (AETC)
MH-53J	Initial Mission	19960830	MC Q (AETC)				
	ASSIGNED 31 SOS		(AFSOC)				
MH-53J	Init INSTM/QUAL (AC)	19970331	FP Q (AFSOC)				
	ANNUAL REVIEW	19970407	(AFSOC)				
MH-53J	MSN (MC)	19970603	MC Q (AFSOC)				
	ASSIGNED 21 SOS		(AFSOC)				
MH-53J	Instruzent	19980323	1 (AFSOC)				
MH-53J	QUAL	19980323	1 (AFSOC)				
	ANNUAL REVIEW	19980417	(AFSOC)				
MH-53J	Initial Mission (Lead)	19980527	3 (AFSOC)				
MH-53J	Initial Mission (Lead)	19980601	1 (AFSOC)				
MH-53J	INIT MSN (NWO)	19981111	1 (AFSOC)				
MH-53J	N/N SPOT	19990130	1 (AFSOC)				
MH-53J	INIT INSTR/INSTM/QUAL	19990217	1 (AFSOC)				
MH-53A	INIT INSTR	19990217	1 (AFSOC)				
	Annual Review	19990331	(AFSOC)				
MH-53J	RQ MSN/INIT INSTR	19991006	1 (AFSOC)				
	Annual Review	20000328	(AFSOC)				
MH-53M	QUAL/INSTM	20000601	1 (AFSOC)				
	Annual Review	20010312	(AFSOC)				

AF FORM 942, 19961201 (EF-V2) — PREVIOUS EDITIONS ARE OBSOLETE.

RECORD OF EVALUATION

NAME (Last, First Middle Initial)
PLUMHOFF, STEVEN

SSN

TYPE AIR-CRAFT	TYPE OF EVALUATION	DATE COMPLETED	QUALIFICATION LEVEL (Unit)	TYPE AIR-CRAFT	TYPE OF EVALUATION	DATE COMPLETED	QUALIFICATION LEVEL (Unit)
MH-53J	QUAL/INSTM	20021120	1 (551 SOS)				
MH-53J	MSN	20030915	1 (551 SOS)				

AF FORM 942, 20030501 *(IMT-V1)* PREVIOUS EDITIONS ARE OBSOLETE

B. AF FORM 942, 1381 (MC)

RECORD OF EVALUATION

NAME (Last, First, Middle Initial): Richardson, Christopher C.

SSN:

TYPE AIR-CRAFT	TYPE OF EVALUATION	DATE COMPLETED	QUALIFICATION LEVEL (COMMAND)	TYPE AIR-CRAFT	TYPE OF EVALUATION	DATE COMPLETED	QUALIFICATION LEVEL (COMMAND)
	Assigned 551 SOS	20020826	(AETC)				
	Annual Review	20020826	(AETC)				
MH-53J	INIT QUAL	20021029	I (AETC)				
MH-53J	INIT SIM INSTM	20021029	I (AETC)				

Not Used

Not Used

AF FORM 942, 19961201 (EF-V3) PREVIOUS EDITIONS ARE OBSOLETE.

RECORD OF EVALUATION

NAME (Last, First, Middle Initial)
Richardson, Christoper C.

SSN

TYPE AIR-CRAFT	TYPE OF EVALUATION	DATE COMPLETED	QUALIFICATION LEVEL (Unit)	TYPE AIR-CRAFT	TYPE OF EVALUATION	DATE COMPLETED	QUALIFICATION LEVEL (Unit)
	Annual Review	20031115	(551 SOS)				
MH 53J	INIT MSN	20030521	1 (551 SOS)				
	Assigned 20 SOS	20030723	(20 SOS)				

AF FORM 942, 20030501 *(IMT-V1)* PREVIOUS EDITIONS ARE OBSOLETE

USAF CERTIFICATION OF AIR CREW TRAINING

THIS IS TO CERTIFY THAT

LAST NAME, FIRST, MIDDLE INITIAL AND SSAN
Richardson, Christopher C.

HAS SATISFACTORILY COMPLETED THE TRAINING OR SPECIAL QUALIFICATION INDICATED HEREON

TRAINING REQUIREMENT/SUBJECT TITLE	DATE COMPLETED	CERTIFYING OFFICIAL/ORGANIZATION
CARGO SLING	20021003	SEAN M. HOYER, Maj, 551 SOS/DOV
CDTQT (AERPS)	20030818	WILLIAM J. ROWELL, Maj, 20 SOS/CCE
DAY WATER OPERATIONS	20030123	SEAN M. HOYER, Maj, 551 SOS/DOV
DEFENSIVE SUPPRESSIVE FIRE	20031102	CHRISTOPHER J. SCHUMPP, Capt, 20 SOS
DISSIMILAR FORMATION		
FUNCTIONAL CHECK FLIGHT		
HOT REFUELING/FARRP	20020916	SEAN M. HOYER, Maj, 551 SOS/DOV
IDAS/MATT	20030620	SEAN M. HOYER, Maj, 551 SOS/DOV
IDAS/MATT BCC3	20030620	SEAN M. HOYER, Maj, 551 SOS/DOV
NIGHT EMERGENCY PROCEDURES	20030902	PAUL H. MULLIS, Maj, 14WS/DOKH
NIGHT WATER HOIST/FAM	20030902	PAUL H. MULLIS, Maj, 14WS/DOKH
SPIE		
SHIPBOARD OPERATIONS SINGLE SPOT		
SHIPBOARD OPERATIONS MULTI SPOT		
VERTICAL BOARD, SEARCH, AND SEIZURE		
500' AUTOROTATIONS	20021016	SEAN M. HOYER, Maj, 551 SOS/DOV
Low Visibility Approach (LVA)	20031014	WILLIAM S. BERNER, LtCol, 20 SOS

AF FORM 1381, 19760301 *(EF-V2)* PREVIOUS EDITION WILL BE USED.

C. AF FORM 942, 1381 (MRS)

RECORD OF EVALUATION

NAME, LAST- FIRST- MIDDLE INITIAL AND SSAN

Kerwood, William J.

TYPE AIRCRAFT	TYPE OF EVALUATION	DATE COMPLETED	QUALIFICATION LEVEL (COMMAND)	TYPE AIRCRAFT	TYPE OF EVALUATION	DATE COMPLETED	QUALIFICATION LEVEL (COMMAND)
B52G	Initial Qual	10 Apr 86	U (SAC)	MH-53J	Qual	7 Apr 94	MF Q(AFSOC)
B52G	Recheck	21 Apr 86	Q (SAC)	MH-53J	REQUAL 50 CAL.	21 Oct 94	MF Q (AFSOC)
ASSIGNED TO 97 BMW	(SAC)			MH-53J	SPOT	24 Oct 94	MF Q(AFSOC)
B52G	Qual	30 Apr 87	Q (SAC)		ASSIGNED TO	20 SOS (AFSOC)	
B52G	Qual	21 Sep 88	Q (SAC)	MH-53J	ANNUAL QUAL	6 JUL 95	MF Q (AFSOC)
UH-1N	INITIAL QUALIFICATION	6 APR 89	Q (MAC)	MH-53J	SPOT	10 JUL 95	MF Q (AFSOC)
UH-1N	INITIAL REMOTE/ SME(Cargo)	18 APR 89	Q (MAC)	MH-53J	QUAL	31 MAY 96	MF Q (AFSOC)
	ASSIGNED 3246 TESTW(AFSC),	24 APR 89		MH-53J	MISSION	21 JUN 96	MF Q (AFSOC)
	INITIAL STAN/ EVAL REVIEW	25 APR 89		Annual	Review	20 AUG 96	(AFSOC)
	ANNUAL STAN / EVAL REVIEW	3 APR 90			ASSIGNED TO	31 SOS (AFSOC)	
UH-1N	QUALIFICATION/ MISSION	13 SEP 90	Q (AFSC)	MH-53J	Annual Qual/Msn	20 May 97	MF Q (AFSOC)
UH-1	AFSC STAN EVAL SUPERVISORY	5 FEB 91	Q (AFSC)		Annual Review	5 Aug 97	(AFSOC)
	ANNUAL STAN/ EVAL REVIEW	1 APR 91		MH-53J	Initial Instructor	17 Nov 97	1 (AFSOC)
	Assigned to	551 FTS			Assigned 20SOS		(AFSOC)
CH-53A	Initial Qual/ SME (Cargo Sling)	19 Nov 91	FF Q (MAC)	MH-53J	MSN	11 May 98	1 (AFSOC)
				MH-53J	QUAL	22 Jul 98	1 (AFSOC)
MH-53J	Initial Night Tac	23 Mar 92	MF Q (MAC)		Annual Review	30 JUL 98	(AFSOC)
MH-53J	Initial SME/ Pave Low	15May 92	MF Q (MAC)	MH-53M	N/N QUAL	6 JUL 99	1 (AFSOC)
	ASSIGNED	TO 21 SOS			Annual Review	15 Jul 99	(AFSOC)
MH-53J	Qual	28 JUL 92	MF Q (AFSOC)	MH-53M	MSN	7 Jul 99	1 (AFSOC)
MH-53J	Pave Low(SME	3 Jun 93	MF Q (AFSOC)	MH-53M	SPOT	20000426	1 (AFSOC)
MH-53J	Initial NWO (SME)	3 Jun 93	MF Q (AFSOC)		Annual Review	20000707	(AFSOC)
MH-53J	Qual	3 Jun 93	MF Q (AFSOC)	MH-53J	Assigned 31 SOS	12Sept 00	(AFSOC)
MH-53J	NTAC	7 Jun 93	MF Q (AFSOC)	MH-53J	Qual	12 Oct 00	1 (AFSOC)
MH-53J	MISSION	8 Mar 94	MF Q(AFSOC)	MH-53J	MSN	9 Nov 00	1 (AFSOC)
MH-53J	PAVE LOW(SME)	8 Mar 94	MF Q(AFSOC)		ASSIGNED 20SOS	15 Jul 01	(AFSOC)

AF FORM 942 MAY 78 PREVIOUS EDITION WILL BE USED. GU.S. G.P.O. 1977-241-130/107

RECORD OF EVALUATION

NAME (Last, First, Middle Initial)
Kerwood, William J.

SSN

TYPE AIR-CRAFT	TYPE OF EVALUATION	DATE COMPLETED	QUALIFICATION LEVEL (COMMAND)	TYPE AIR-CRAFT	TYPE OF EVALUATION	DATE COMPLETED	QUALIFICATION LEVEL (COMMAND)
	Annual Review	16 Jul 2001	(AFSOC)				
MH-53M	QUAL	17 Jan 2002	1 (AFSOC)				
MH-53M	MSN	17 Jan 2002	1 (AFSOC)				
	Annual Review	1 Jul 2002	(AFSOC)				

AF FORM 942, DEC 96 (EF-V1) (PerFORM PRO) PREVIOUS EDITIONS ARE OBSOLETE.

RECORD OF EVALUATION

NAME (Last, First, Middle Initial)	SSN
Kerwood, William J	

TYPE AIR-CRAFT	TYPE OF EVALUATION	DATE COMPLETED	QUALIFICATION LEVEL (Unit)	TYPE AIR-CRAFT	TYPE OF EVALUATION	DATE COMPLETED	QUALIFICATION LEVEL (Unit)
	Annual Review	20030731	(20 SOS)				

AF FORM 942, 20030501 *(IMT-V1)* PREVIOUS EDITIONS ARE OBSOLETE

USAF CERTIFICATION OF AIR CREW TRAINING

THIS IS TO CERTIFY THAT

LAST NAME, FIRST, MIDDLE INITIAL AND SSAN

Kerwood, William J.,

HAS SATISFACTORILY COMPLETED THE TRAINING OR SPECIAL QUALIFICATION INDICATED HEREON

TRAINING REQUIREMENT/SUBJECT TITLE	DATE COMPLETED	CERTIFYING OFFICIAL/ORGANIZATION
Cargo Sling (Transcribed)	ON OR BEFORE 19 Nov 91	
Aircrew Eye and Respiratory Protection System (Transcribed)	ON OR BEFORE 19 Jun 95	
Defensive Suppressive Fire (Transcribed)	ON OR BEFORE 10 Apr 96	
FARRP (Hot Refueling) (Transcribed)	ON OR BEFORE 23 Jan 93	
Shipboard Operations (Transcribed)	ON OR BEFORE 23 Jan 93	
Tactical Shipboard Ops (VBSS) (Transcribed)	ON OR BEFORE 23 Jan 93	
Blade/Pylon Fold (Transcribed)	ON OR BEFORE 6 Oct 93	
FCF (Transcribed)	ON OR BEFORE 28 Jul 92	
IDAS/MATT (Transcribed)	ON OR BEFORE 15 Sep 98	
Infrared Aiming Device (IRAD) (Transcribed)	ON OR BEFORE 3 Dec 97	
Sled (Transcribed)	ON OR BEFORE 10 Mar 98	
IDAS/MATT Block Cycle Change 1 (Transcribed)	ON OR BEFORE 17 Aug 01	Roger D. Bowers Jr,SSgt,20SOS/DOV
IDAS/MATT Block Cycle Change 2	28 May 02	Roger D. Bowers, Jr,SSgt,20SOS/DOV
BLOCK CYCLE 3	23 Aug 02	Ryon L. Crowley,TSgt, 20 SOS/DOV

AF FORM 1381, 19760301 (EF-V2) PREVIOUS EDITION WILL BE USED.

D. AF FORM 942, 1381 (MFE)

RECORD OF EVALUATION

NAME (Last, First Middle Initial) | SSN

Walkup, Thomas A. Jr.

TYPE AIR-CRAFT	TYPE OF EVALUATION	DATE COMPLETED	QUALIFICATION LEVEL (Unit)	TYPE AIR-CRAFT	TYPE OF EVALUATION	DATE COMPLETED	QUALIFICATION LEVEL (Unit)
	Assigned 551 SOS	20020625	(AETC)				
	Annual Review	20020625	(AETC)				
MH-53M	INIT QUAL	20021021	1 (AETC)				
MH-53M	INIT MSN	20030513	1 (55 SOS)				
	Assigned 20 SOS	20030722	120 SOSI				

AF FORM 942, 20030501 *(IMT-V1)* PREVIOUS EDITIONS ARE OBSOLETE

USAF CERTIFICATION OF AIR CREW TRAINING

THIS IS TO CERTIFY THAT

LAST NAME, FIRST, MIDDLE INITIAL AND SSAN

Walkup, Thomas A. Jr.

HAS SATISFACTORILY COMPLETED THE TRAINING OR SPECIAL QUALIFICATION INDICATED HEREON

TRAINING REQUIREMENT/SUBJECT TITLE	DATE COMPLETED	CERTIFYING OFFICIAL/ORGANIZATION
BLADE/PYLON FOLD	21 Oct 02	VINCENT A. DEPERSIO, SSGT, 551 SOS/DOV
HOT REFUELING/FARRP	21 Oct 02	VINCENT A. DEPERSIO, SSGT, 551 SOS/DOV
CARGO SLING	21 Oct 02	VINCENT A. DEPERSIO, SSGT, 551 SOS/DOV
INFARED AIMING DEVICE (IRAD)	13 May 03	VINCENT A. DEPERSIO, SSGT, 551 SOS/DOV
AERPS	22 Aug 03	JOSEPH W. MOON, TSGT, 20SOS/DOFA
IDAS/MATT	03 Sep 03	JOSEPH W. MOON, TSGT, 20SOS/DOFA
Shipboard Operations	4 Nov 03	Sean C Nolan, MSgt, 20 SOS/DOFC
Defensive Suppressive Fire (DSF)	27 Oct 03	Sean C Nolan, MSgt, 20 SOS/DOFC

AF FORM 1381, MAR 76 (CG) (SEMS Pro) PREVIOUS EDITIONS WILL BE USED

E. AF FORM 942, 1381 (MLS)

RECORD OF EVALUATION

NAME (Last, First, Middle Initial): WALTERS, HOWARD A. SSN:

TYPE AIR-CRAFT	TYPE OF EVALUATION	DATE COMPLETED	QUALIFICATION LEVEL (COMMAND)	TYPE AIR-CRAFT	TYPE OF EVALUATION	DATE COMPLETED	QUALIFICATION LEVEL (COMMAND)
MH-53J	INITIAL QUAL/MISSION	19951214	MG Q (AFSOC)				
----------	ASSIGNED 20 SOS		(AFSOC)				
MH-53J	INTL SME (NWO)	19961011	MG Q (AFSOC)				
MH-53J	QUAL/MSN	19961015	I (AFSOC)				
	ANNUAL REVIEW	19970108	(AFSOC)				
MH-53J	SPOT	19970723	I (AFSOC)				
MH-53J	INTL SME (Rappel)	19971006	I (AFSOC)				
MH-53J	MISSION	19971028	I (AFSOC)				
	ANNUAL REVIEW	19980107	(AFSOC)				
MH-53J	MISSION	19980916	I (AFSOC)				
	ASSIGNED 31 SOS		(AFSOC)				
	ANNUAL REVIEW	19981215	(AFSOC)				
	ASSIGNED 551 SOS		(AETC)				
	ANNUAL REVIEW	20000105	(AETC)				
MH-53J	QUAL/MSN	20000215	I (AETC)				
MH-53J	N/N SPOT	20000313	I (AETC)				
MH-53J	INIT INSTR	20000323	I (AETC)				
	ANNUAL REVIEW	20010110	(AETC)				
MH-53J	QUAL/MSN	20010709	I (AETC)				
	ANNUAL REVIEW	20020110	(AETC)				

AF FORM 942, 19961201 *(EF-V2)* PREVIOUS EDITIONS ARE OBSOLETE

RECORD OF EVALUATION

NAME(Last, First Middle Initial): Walters, Howard A.

SSN:

TYPE AIR-CRAFT	TYPE OF EVALUATION	DATE COMPLETED	QUALIFICATION LEVEL (Unit)	TYPE AIR-CRAFT	TYPE OF EVALUATION	DATE COMPLETED	QUALIFICATION LEVEL (Unit)
MH-53J	QUAL/MSN	20021212	1 (551 SOS)				
	Annual Review	20030109	(551 SOS)				
MH-53J	N/N SPOT	20030403	1 (58 OG)				
	AFSOC						

AF FORM 942, 20030501 *(IMT-V1)* PREVIOUS EDITIONS ARE OBSOLETE

USAF CERTIFICATION OF AIR CREW TRAINING

THIS IS TO CERTIFY THAT

LAST NAME, FIRST, MIDDLE INITIAL AND SSAN

Walters, Howard A.

HAS SATISFACTORILY COMPLETED THE TRAINING OR SPECIAL QUALIFICATION INDICATED HEREON

TRAINING REQUIREMENT/SUBJECT TITLE	DATE COMPLETED	CERTIFYING OFFICIAL/ORGANIZATION
HOT REFUELING/FARRP (Transcribed)	27 Sep 95	KEVIN E. WILSON, MSgt, 551 SOS/DOV
AERIAL REFUELING FAM (Transcribed)	14 Dec 95	KEVIN E. WILSON, MSgt, 551 SOS/DOV
BLADE/PYLON FOLD (Transcribed)	14 Dec 95	KEVIN E. WILSON, MSgt, 551 SOS/DOV
~~SHIPBOARD OPERATIONS (Transcribed)~~	15 Jun 96	~~KEVIN E. WILSON, MSgt, 551 SOS/DOV~~
SLED/WINCH (Transcribed)	3 Jul 96	KEVIN E. WILSON, MSgt, 551 SOS/DOV
AIRCREW EYE AND RESPITORY SYSTEM (AERPS) (Transcribed)	3 Jul 96	KEVIN E. WILSON, MSgt, 551 SOS/DOV
INFRARED AIMING DEVICE (IRAD) (Transcribed)	17 Mar 97	KEVIN E. WILSON, MSgt, 551 SOS/DOV
~~DEFENSIVE SUPPRESSIVE FIRE (Transcribed)~~	27 Mar 97	~~KEVIN E. WILSON, MSgt, 551 SOS/DOV~~
RAPPEL (AFTER INITAIL QUAL) (Transcribed)	6 Oct 97	KEVIN E. WILSON, MSgt, 551 SOS/DOV
DILLON FEEDER	12 Sep 02	KEVIN E. WILSON, MSgt, 551 SOS/DOV

AF FORM 1381, MAR 78 (CG) (SERIS Pw) PREVIOUS EDITIONS WILL BE USED

A. AF FORM 942, 1381 (MTS)

RECORD OF EVALUATION

NAME (Last, First, Middle Initial): LOPEZ, WAYNE C. JR. SSN:

TYPE AIRCRAFT	TYPE OF EVALUATION	DATE COMPLETED	QUALIFICATION LEVEL (COMMAND)	TYPE AIRCRAFT	TYPE OF EVALUATION	DATE COMPLETED	QUALIFICATION LEVEL (COMMAND)
	Assigned 16 SOS		(AFSOC)		Annual Review	1 May 2002	(AFSOC)
AC-130H	INITIAL QUALIFICATION	8 Aug 1991	MG Q (AFSOC)	MH-53M	QUAL/MSN	9 Oct 2002	1 (AFSOC)
AC-130H	SPOT	24 Oct 1991	MG Q (AFSOC)				
AC-130H	ANNUAL QUAL	1 Jul 1992	MG Q (AFSOC)				
AC-130H	NO-NOTICE	14 Jan 1993	MG Q (AFSOC)				
AC-130H	ANNUAL QUAL	11 Aug 1993	MG Q (AFSOC)				
AC-130H	QUAL	25 Jul 1994	MG Q (AFSOC)				
AC-130H	INITIAL INSTRUCTOR	12 Sep 1994	IG Q (AFSOC)				
AC-130H	MISSION	24 Aug 1995	IG Q (AFSOC)				
MH-53J	INITIAL QUAL	22 Apr 1996	MG Q (AFSOC)				
	Assigned 31 SOS		(AFSOC)				
MH-53J	SPOT	23 Jul 1996	MG Q (AFSOC)				
MH-53J	MSN	3 Sep 1996	MG Q (AFSOC)				
	Annual Review	1 Nov 1996	(AFSOC)				
MH-53J	INITIAL SME (NWO)	21 Nov 1996	MG Q (AFSOC)				
MH-53J	MISSION	14 May 1997	MG Q (AFSOC)				
	Assigned 20 SOS	6 Jun 1997	(AFSOC)				
	Annual Review	5 Nov 1997	(AFSOC)				
MH-53J	MSN	5 Oct 1998	1 (AFSOC)				
	Annual Review	12 Oct 1998	(AFSOC)				
	Annual Review	18 Oct 1999	(AFSOC)				
MH-53M	QUAL/MSN	13 Jan 2000	1 (AFSOC)				
	Annual Review	19 May 2000	(AFSOC)				
MH-53M	SPOT	27 Apr 2000	1 (AFSOC)				
MH-53M	N/N SPOT	8 Mar 2001	2 (AFSOC)				
	Annual Review	2 May 2001	(AFSOC)				
MH-53M	QUAL/MSN	30 May 2001	1 (AFSOC)				

AF FORM 942, DEC 96 (EF-V1) (PerFORM PRO) PREVIOUS EDITIONS ARE OBSOLETE.

RECORD OF EVALUATION

NAME(Last, First, Middle Initial)	SSN
Lopez, Wayne C. Jr.	

TYPE AIR-CRAFT	TYPE OF EVALUATION	DATE COMPLETED	QUALIFICATION LEVEL (Unit)	TYPE AIR-CRAFT	TYPE OF EVALUATION	DATE COMPLETED	QUALIFICATION LEVEL (Unit)
	Annual Review	20030519	(20 SOS)				

AF FORM 942, 20030501 *(IMT-V1)* PREVIOUS EDITIONS ARE OBSOLETE

USAF CERTIFICATION OF AIR CREW TRAINING		
THIS IS TO CERTIFY THAT		
LAST NAME, FIRST, MIDDLE INITIAL AND SSAN LOPEZ, WAYNE C. JR.		
HAS SATISFACTORILY COMPLETED THE TRAINING OR SPECIAL QUALIFICATION INDICATED HEREON		
TRAINING REQUIREMENT/SUBJECT TITLE	DATE COMPLETED	CERTIFYING OFFICIAL/ORGANIZATION
AIRCREW EYE AND RESPIRTORY PROTECTION SYSTEM (AERPS) --TRANSCRIBED--	19980210	Louis D. Orrie, TSgt, 20 SOS/DOV, EG
DEFENSIVE SUPPRESIVE FIRE (DSF) --TRANSCRIBED--	19971003	Louis D. Orrie, TSgt, 20 SOS/DOV, EG
HOT REFUELING, FARRP --TRANSCRIBED--	19960213	Louis D. Orrie, TSgt, 20 SOS/DOV, EG
INFRARED AIMING DEVICE (IRAD) --TRANSCRIBED--	19961127	Louis D. Orrie, TSgt, 20 SOS/DOV, EG
SHIPBOARD OPERATIONS --TRANSCRIBED--	19980818	Louis D. Orrie, TSgt, 20 SOS/DOV, EG
BLADE/PYLON FOLD		
RAPPEL --TRANSCRIBED--	20010126	Louis D. Orrie, TSgt, 20 SOS/DOV, EG
SPECIAL PATROL INSERTION/EXTRACTION DEVICE (SPIES)		
AERIAL REFUELING FAM		
DAY WATER OPERATIONS (If not NWO qual)		
DILLON FEEDER	20020904	Jeffery R. Morrison,MSgt 20 SOS

AF FORM 1381, 19760301 *(EF-V2)* PREVIOUS EDITION WILL BE USED.

III. MAINTENANCE PERSONNEL RECORDS

Training records were obtained and reviewed for the following maintenance personnel:

Last Name, First MI	Rank	AFSC
Arnold, Jacob W.	SrA	2A552
Bonner, Keith T.	Amn	2A651B
Carpenter, Ryen T	A1C	2A532
Carpenter, Ryen T	A1C	2A532
Gause, Keith H.	A1C	2W151
Gorham, Curtis S.	SSgt	2W171
Wright, Jeffrey D.	A1C	2A532

INTENTIONALLY
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IV. OTHER PERSONNEL EVALUATION AND TRAINING RECORDS

Section Not Used